

Guide for Master's oral examinations



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This document is compiled for the purpose of education and not for sale

Dear students,

Purpose of an oral examination is to check your competency, confidence and practical knowledge. Therefore, theoretical questions may not be asked unless it is considered necessary by the examiner. At the same time, it is a normal practice that no questions related to local regulations which are applicable to foreign countries will be asked unless it is so important, but, in this book, apart from the Sri Lankan and international regulations, laws and guide lines, we have addressed certain local regulations of certain foreign countries for you to gain a more practical knowledge on those subject areas. At the same time:

- Make sure to have a thorough knowledge of ROR;
- Please refer the IMO & ILO web sites and update yourself with the latest amendments to Conventions and Codes;
- Please refer the DGMS web site and update yourself with the latest amendments to the Sri Lankan Legislation and latest local MSNs; and
- Refer the latest case studies.

You are also advised to refer the latest editions of other publications such as Ship master's business companion (by Malcolm Maclachlan), the Code of Safe Working Practice (by MCA, UK), International Health Regulations (by WHO), Code of Conduct for Merchant Navy (Approved by the MCA, UK) etc. to gain a better knowledge.

We would like to thank all the master candidates who encouraged us to compile this booklet.

Wish you all the best!

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INSTRUCTIONS AND GUIDELINES TO A MASTER FROM THE COMPANY

When a master is taking actions for the safety and security of the ship and for the protection of the marine environment, he/she shall do so in accordance with the instructions given by the company and using professional judgment. Therefore, a master is required to have a good idea about his/her roles and responsibilities as provided in the ship's Safety Management System (SMS). To gain a generic idea about what a company expect from a master, refer below notes which may be similar to the instructions found in a ship's SMS:

Master's authority and responsibilities

A) Master's authority

The vessel is under the authority of the Master as owner's representative onboard. The Master is accountable for the;

- safety and security of the vessel, people working onboard and the cargo; and
- protection of marine environment.

The Master shall protect the company interests without jeopardizing the safety of crew and the vessel.

The Master has access to the top management of the company at any time. The Company will provide the necessary support so that the Master's duties and responsibilities can be safely executed.

Master has overriding authority in safety, pollution prevention and security when ship is at sea, in dry dock or at berth. This overriding authority will continue even if there is a pilot or an engineer or an owner's representative onboard, unless the vessel is subjected to special local regulations.

The Master may delegate some of his tasks to officers and engineers at his discretion but retains overall responsibility. In case of incapacity subordinate (the chief officer) takes the temporary command of the vessel.

The Master shall coordinate with all third parties involved in vessel operations such as port/flag state representatives, agents, shippers, charterers, surveyors, stevedores etc.

B) Master's responsibilities

- Master is the company's representative onboard. Responsible for protecting company interests and charterer's interests which are vested in the company.
- Responsible for safe navigation and safe operation of the vessel all the time.

- Responsible for safety and protection of cargo.
- Responsible for protecting the marine environment and shall;
 - implement the environmental protection policy of the company
 - initiate the SOPEP in case of pollution.
- Master shall take decisions which are deemed necessary in case of emergencies.
- Responsible for implementing the “Safety Management System” and for ensuring that the requirements are complied with. He/she shall;
 - maintain all logbooks as required by the ship’s SMS which includes but not limited to Official Logbook, Oil Record Book Part-I, if applicable Part II, GMDSS log etc.
 - report any accident, injury, deficiencies or non-conformities to the Company as SMS requirements and ensures that corrective actions are taken. He shall prepare and send all reports as may be required by the Company or the charterer.
 - review the SMS every 6 months by following the instructions provided in the SMS and the same to be reported to the company.
 - request the Company’s assistance as may be necessary
- Responsible for motivating the crew in the observation and strict compliance of the “Safety Management System”.
- The Master shall ensure that safe working practices are followed onboard in accordance with the flag state regulations, company SMS, customary practices of the trade and good seamanship.
- Responsible for overseeing onboard training of all crew members, as required by the company and international regulations.
- Responsible to make decisions with respect to the security of the ship.
- The Master is the chairman of safety committee and is responsible to hold safety committee meetings and report matters relevant to unsafe practices and proposals to enhance safety, security, pollution prevention measures to the company.
- The master is responsible to ensure that all international, flag state, port state and coastal state regulations with regards to documentation and reporting are complied with and ensures that all the necessary certificates and documents are valid and on board.
- Master is responsible to maintain crew agreement and any other documents/records related to employees.
- Master shall;
 - make wages accounts for all employees onboard and issue them wages slips.
 - keep all cash / provision / slop-chest / radio accounts and prepare any returns as may be required by the company, monthly and on change of command
- Master is responsible to;
 - qualify officers according to company’s promotion scheme; and

- provide adequate training to chief officer with regards to master's duties as he is the second in command
- If the master is the SSO (which depends upon the company), he;
 - is responsible for reviewing the effective operation of the "Ship Security Plan"
 - shall report any breach of security to the Company Security Officer (CSO).

The master may delegate some of these tasks at his discretion but retains overall responsibility.

Master's overriding authority

In accordance with the ISM Code, the master has the overriding authority to make decisions with respect to safety and pollution prevention and to request the Company's assistance if required.

In accordance with the ISPS Code, the Master has the overriding authority to make decisions with respect to the security of the ship and to request assistance of the company or of any Contracting Government as may be necessary.

The owner, ship management company, charterer or any other person shall not restrict the master from taking or executing any decision which is necessary for the safety, protection of the marine environment and security.

IMO Resolution A.443 (XI) states that the ship master is protected from unjustifiable dismissal or other unjustifiable action by the ship owner, charterer or any other person as a consequence of the proper exercise of his professional judgment.

Contents of master's handing over documents

Master's handing over note shall contain at least:

A) Vessel's certificates/official documentation/class

- Updated list of ship's certificates with expiry dates;
- Updated list of all Statutory Documents and Publications;
- Official Logbook and updated all Flag Documents;
- Outstanding defects or Conditions of Class;
- Charter Party details;
- Survey Status and ongoing surveys; and
- SMS documentation (SMS index with last update, ISM/ ISPS: status of non-conformities, drills, audits, meetings and review, etc.) updated and in order and DPA/CSO Letters.

B) Vessel particulars

- Ship handling characteristics/deficiencies;
- Technical information and Technical issues;
- Vessel's accounts (cash, bond, wages, radio, provisions); and
- Crew competence and qualification.

C) Voyage characteristics

- Charterer's requirements;
- Voyage reports;
- Nautical, commercial and technical aspects of the voyage;
- Operations in the current port of call (Cargo ops, departure drafts and stability, etc.);
- Requirements of the next ports of calls (if the ports are known); and
- Voyage schedule.

Master's standing orders

Master's standing orders means permanent orders that will be applicable all the time as addressed in such orders and it overrides company SMS.

Standing orders shall be issued in "Master's Standing Order Book" and shall be available on the bridge all the time.

Master shall make standing orders upon joining a vessel and shall be signed by him. All deck officers including the chief officer is required to read the master's standing orders, understand them, sign it upon joining a vessel and comply with them.

Following areas could be addressed when making standing orders:

- Actions in the case of;
 - Taking over & handing over the watch;
 - change from auto pilot to manual steering and vice versa;
 - fixing the position of the vessel;
 - preventing collisions;
 - updating of nautical charts nautical publications;
 - use of bridge equipment such as radar, ARPA, ECDIS, echo sounder, autopilot, AIS, VHF etc.;
 - testing of the bridge equipment;
 - deciding the maximum/minimum engine speed;

- deciding the watch level;
 - deciding the requirement of a lookout;
 - navigation in ice areas, bad weather or in restricted visibility; and
 - under pilotage.
-
- Precautions to be taken against flooding.
 - Handling of GMDSS equipment.
 - Precautions when embarking or disembarking a pilot.
 - Monitoring the condition of weather.
 - Safety, protection of environment and security.
 - When to call master.
 - Any other points which the master considers necessary.

Temporary and night orders

Temporary and night orders of the master shall be laid down in the “Temporary and Night Order Book” when deemed necessary and shall be available on the bridge all the time.

Master shall make sure that the OOW has understood and signed the orders that he has laid down before he leaves the bridge.

These shall be read, understood and signed by deck watchkeeping officers at the time of taking over the watch. If they have any doubts, they shall seek clarification from the person who is handing over the watch or the master.

TAKING OVER COMMAND

- While joining the ship, have a general overview of the vessel including the condition of the hull, draught marks, gangway, deck, alleyways, firefighting equipment, lifesaving equipment etc.
- Use the checklists provided in the SMS.
- Follow the safety familiarization as required by the SMS.
- Read the handing over notes of the present master.
- Take delivery of the certificates and documents from the outgoing master.
- Check the cash with the master's custody.
- Obtain the combination or the keys of the ship's safe.
- Refer the charter's instructions and charter parties and gain a knowledge of:
 - The fuel reserves required to have onboard.
 - Speed to be maintained.
 - Reports to be made, when to send them and to whom.
 - Charterer's instructions regarding cargo, lashing, stowing and navigation.
 - Charterer's instructions regarding the bills of lading.
 - Deviation clauses in the charter party.

- Refer the 'audit and survey report file' to identify whether any deficiencies or conditions for the vessel is pending.
- Discuss any pending or important issues that needs immediate attention.
- Enter the personal details in the ship's articles.
- Make an entry in the official logbook regarding the change of command. This is to be signed by both the masters.
- If the outgoing master is not available onboard (e.g. expired during the voyage), the new master has to make a statement on the official logbook stating the reasons why a personal hand-over was not possible and an officer has to sign it as witness.
- Enter the name, COC number and the type of the COC in the front cover of the official logbook (for British flagged ships) – this depends upon the flag state.
- Enter the details in the "list of crew" in the official logbook.
- Take over all the keys.
- After taking over the command but before sailing:
 - Aware of the next voyage particulars (draught restrictions, distances, availability of bunkers, charterer's instructions, special requirements regarding the safe carriage of cargoes, whether the next port is safe etc.)
 - Have a discussion with the chief officer regarding departure and arrival conditions of the vessel, availability of fresh water, stores etc.
 - Have a discussion with the chief engineer about availability of bunkers for the voyage, bunker reserves, spares for the intended voyage.
 - Have a discussion with the 2nd officer regarding the passage plan, availability of publications and charts etc. Check voyage charts to ensure the passage is safe.

- Conduct a briefing about the intended passage with the navigating officers.
 - Make sure the muster list is updated.
 - If required, make new standing orders.
-
- Make a full inspection of the vessel as soon as possible.

SIGNING ON / OFF PROCEDURE OF SEAFARERS

Signing on procedure

The procedures of signing on/off may be different from flag state to flag state. Procedures issued by Maritime Coast Guard Agency (MCA), for UK flag ships are explained below as most flags follow a similar practice.

There are two documents that a master must be aware of. The first one is the Seafarer's Employment Agreement (SEA), and the other one is the list of crew.

A) Seafarer's Employment Agreements (SEA) – required in accordance with MLC 2006

All UK flag ships are required to have individual SEA for each seafarer (employees including trainees) on board which includes, but not limited to (refer the MLC 2006 for further details):

- Names & addresses of seafarer, ships owner
- Date & place of agreement
- Period of agreement
- Health and social security protection provided
- Wages and the manner in which it is to be paid
- Hours of work
- Paid leave etc.

One of the signed (signed by seafarer and ship owner or his representative) original SEA to be given to the seafarer and another original shall be kept with the ship owner. A copy of the SEA is to be kept onboard.

Where a seafarer is not directly employed by the ship owner but is employed by a third party (e.g. a manning agency), the employer must be a party to the SEA. In such cases, the ship owner (or an authorised signatory of the ship owner) must also sign the agreement to guarantee that the ship owner will meet any obligations of the employer to the seafarer under the SEA.

Non-seafarers (repair team, riding gangs etc.) shall have evidence of contractual or similar arrangements providing them with decent working and living conditions onboard ship. Such a document shall contain at least (refer the MLC 2006 for further details):

- The remuneration
- The manner in which the remuneration must be paid

B) List of crew

There is a difference between a ‘list of crew’ and a ‘crew list’. Crew list is a document which contains names, ranks, dates of birth, nationalities etc. of each crew member onboard used for arrival and departure situations to complete formalities with the port authorities. List of crew is an official document required by the flag state. Refer the sample format of a list of crew¹ below:

List of crew and signatures of seafarers serving on (name of vessel)				MSF 4157 (Rev. 9/2013)
(a) Reference No. in Logbook	b) Name of Seafarer (block letters)	e) Address of Seafarer	h) Date of commencement of employment on board	k) Signature of Seafarer on engagement
	c) Discharge book No (if any) or date and place of berth	f) Name and relationship of next of kin	i) Date and place of leaving the Ship	l) Signature of Seafarer on discharge or if not discharged, the reason for left being behind, if known
	d) Name of Ship in which last employed	g) Address of next of kin if different to seafarer	j) If discharged the reason for discharge	m) Signature of person before whom the Seafarer is discharged
(a)	b)	e)	h)	k)
	c)	f)	i)	l)
	d)	g)	j)	m)
(a)	b)	e)	h)	k)
	c)	f)	i)	l)
	d)	g)	j)	m)
(a)	b)	e)	h)	k)
	c)	f)	i)	l)
	d)	g)	j)	m)
(a)	b)	e)	h)	k)
	c)	f)	i)	l)
	d)	g)	j)	m)
CERTIFICATES OF COMPETENCY HELD BY SEAFARERS LISTED ABOVE <i>(State if none held)</i>				
Reference No. (as above)	Capacity in which employed	No. of Certificate of Competency, Equivalent Competency etc.	Describe in full the Certificate of Competency, Equivalent Competency held including all Endorsements (e.g. Restrictions, Dangerous Cargo Endorsements etc.) and the Country of issue	

At the time of signing on:

- Ensure the seafarer is in possession of an original of SEA and the master shall retain a copy of the same.
- Enter the details of the seafarer on the list of crew and get his signature on it.
- Enter the name of the crew member in the ‘record of seamen employed in the ship’ section of the official logbook. Refer a sample of that section below:

¹ Refer MGN 477(M) Amendment 2, MCA, UK or the latest

Reference number in list of crew	Name of seaman (Capital letters)	Capacity in which employed	If entry made in narrative section give relevant page

- The reference number in the above list to be taken from the list of crew. All these entries to be made by the master.
- In accordance with the MCA regulations no need to enter **signing-on** of crew in the narrative section of the official logbook. But change of master is required to be entered in the narrative section. Some other flag states may require entering **signing-on** of crew in the narrative section (Hong Kong requires to make an entry in the narrative section of the official record book in case of **signing-on and signing-off both**). Use the reference numbers in the list of crew when making any entries to the narrative section with regard to any crew members, instead of writing the names.
- Example of a statement to be made in the narrative section in the case of change of master:

This is to record that at the date, time and place as mentioned, the command of this vessel handed over to Capt. XXXX by Capt. YYYY, while she is safely afloat in seaworthy condition with valid necessary certificates & documentation.			
At the time of handing over ROB are:			
Cash	: AAAA	Provisions	: BBBB
Bond stores	: CCCC	Club money	: DDDD
HFO	: EEEE	DO	: FFFF
Lub oil	: GGGG	FW	: HHHH
Name and Signature of out-going master		Name and signature of in-coming master	

- Write the date of engagement on the CDC and stamp it.
- If the age of the seafarer is below 18 years of age, entries to be made in the **list of crew, official logbook** and also in the **'list of young persons'**. In accordance with the Sri Lankan regulations no seafarer can be employed onboard below 18 years of age as the CDCs are not issued to persons below 18 years of age. Refer a sample format of a 'list of young persons' below²:

² Refer MGN 477(M) Amendment 2, MCA, UK or the latest

LIST OF YOUNG PERSONS

MSF4158 (Rev 11/13)

Reference No. in List of Crew	Family name and other names (in full)	Date of Birth	Place of Birth	Capacity in which employed

Signing on procedure on board Sri Lankan flagged vessels

The table in the paragraph 9 of the Sri Lankan crew agreement (refer Annex I) is required to be completed. The relevant information can be obtained from the passport, CDC and the other documents.

The same document is also available in the DGMS office (in the ledger) and it will be completed by the officials at the DGMS office when going to endorse the same on the CDC. That is why the “Signature of the Shipping Officer” is also available onboard the ship’s crew agreement as well (refer the column number 13 of paragraph 9). Ship’s copy of the agreement can be identified as it is handwritten as ‘ship’s copy’ on the front of the agreement.

Enter the details on the 3rd page of the official logbook (refer the Annex II). In accordance with the UK regulations, the serial number on the list of crew and the serial number on the official logbook have to be the same. But, on Sri Lankan flag vessels, the serial numbers on the official logbook and the crew agreement are not required to be the same.

The Sri Lankan Crew Agreement will be terminated one year after opening the agreement. The terminated crew agreement to be sent to the shipping officer along with the appropriate official logbook.

Documents to be submitted to the master while joining a vessel

Master or the officer designated must collect the following documents of the joining crew. Make sure the documents and certificates with dates of expiries are valid for a period of contract + 6 months (the required period of validity depends upon the company):

- Seaman’s book.
- Passport.

- U.S. visa to be held if vessel trading to U.S (some companies require to have US visa, whether the vessel touches US ports or not).
- Original of seafarer's National certificates / licenses (must ensure that they are appropriate to the function) such as:
 - COC
 - GMDSS certificate
 - ECDIS certificate
 - High voltage certificate
 - Certificates of ancillary courses
 - SSO certificate for ship's SSO
 - Medical care certificate for the person administering medicines onboard etc.
- Medical fitness certificate (it shall be valid for the work to be carried out onboard)
- CEC (Certificate of Equivalent Competency) or COR (Certificate of Recognition) issued by the Flag state (Flag endorsement). If Flag Endorsement has not been issued, seafarer must be in possession of a valid C.R.A. (Confirmation of Receipt of Application). Examples:
 - CEC for COC
 - CEC for GMDSS etc.
- If required, CDC issued by the flag state.
- Vaccination and Inoculation Certificate (Yellow Card).
- Letter of employment contract given by the recruiting agency (ensure the contents of the letter are correct).

All the documents to be in English. All documents and Certificates must be original. No photocopies are to be accepted.

Signing off procedure

- Before signoff, check all the documentation of the newcomer. Once everything for the new joiner is in order, may begin the process of signing off. The reason for this is, if the new joiner does not possess the required documents or due to other reason, master may consider of keeping the existing seafarer onboard without signing on the new joiner.
- Balance wages of the signing off seafarer to be settled.
- Ensure to issue legitimate documents which relate to his future carrier, such as bridge watch keeping certificates, service letters, steering certificates etc.
- Enter the date of disengage on the CDC and sign it.
- Return all his personal certificates and documents which were at the master's custody.
- Sign off from the ship's articles.
- In case of a British Flagged vessel;
 - make a statement in the narrative section of the official record book (Example - "No. 12 and 20 as listed on the list of crew signed off");

- complete the last column in the ‘record of seamen employed in the ship’ section of the official logbook (example – if any disciplinary actions were taken, promotions / demotions etc.); and
- sign off him from the list of crew and the master to counter sign.
- Update the ship’s crew list.

Signing off procedure on board Sri Lankan flag ships

Complete the last 6 columns on the paragraph 9 of the Sri Lankan Crew Agreement (refer the Annex II). The rest of the formalities are the same as above.

ARRIVAL / DEPARTURE DOCUMENTS

Ships are supposed to have valid certificates, documents and records in accordance with the flag State regulations and in accordance with the port State's regulations of the vessel's ports of call. At the same time, there are various information that a master is required to provide to a port prior arrival, on arrival, before departure and at the time of departure.

The following list is a list of general documents that are required when arriving and when departing a port. Need to refer the Guide to Port Entry or websites of port authorities and seek the advice from the agent for specific details of reports to be made, when to report, whom to be reported and what documents are to be presented.

Arrival documents

Port health	Immigration	Customs	Others
Crew list (FAL form 5)	Crew lists (FAL form 5)	Crew lists (FAL form 5)	IOPP Certificate
Vaccination list (yellow fever)	Passenger list (FAL form 6)	Port of call	Oil record book
Narcotics list	Port of call	Nil list	Garbage record book
Medical chest certificate	Nil list	Last port clearance	Ballast water report form
Maritime declaration of health	Passport	Narcotics list	Certificate of registry
Ship Sanitation Control Certificates or Ship Sanitation Control Exemption Certificates	CDCs	Crew effect declaration (FAL form 4)	International tonnage certificate
Free Pratique will be granted	Shore passes will be issued	Ship particulars	Load line certificate
		Bond store list	SMC
		Cargo declaration (FAL form 2)	ISPS Security declaration
		Ship's stores declaration (FAL form 3)	IMO general declaration (FAL Form 1)
			CLC for bunker oil pollution
			Amounts of waste onboard and to be discharged (waste form)
			Trim and stability calculations (for grain cargoes)
<ul style="list-style-type: none"> • If any firearms are onboard, it should be declared in the crew's effects declaration or ship's stores declaration depending upon it belongs to the vessel or a personal item. Need to have a valid licence or permit from the appropriate country of origin. This is required for customs. • Nil list – this is used when there are no Passengers, Stowaways, Animals, Arms, Ammunitions onboard. • Declaration of Security – this is only required to be completed, if the Port of Call is a non-ISPS compliant port or if the Vessel or Port are at different Security Levels or if requested by the PFSO / CSO / Flag State only. 			

Ship masters and/or their agents are required to make various reports to number of authorities in a port. Which includes repetition of work again and again and increases the workload of ship masters. IMO has taken steps to reduce this workload by introducing amendments to the FAL Convention through Resolution FAL.12(40).

Through this Resolution, IMO encourage public authorities to introduce arrangements to enable the submission of all the information required by public authorities in connection with the arrival, stay and departure of ships, persons and cargo, avoiding duplication, to a "Single Window" ('Single Window' means a facility that allows submission of standardized information covered by the Convention to a single-entry point).

Departure documents

- IMO General declaration (FAL Form 1)
- IMO crew list (FAL Form 5)
- IMO passenger list (FAL Form 6)
- Nil list
- Cargo declaration
- Trim and stability calculations (mainly required for grain cargoes but may require for other cargoes)
- Dangerous goods manifest (FAL form 7)
- Ship's stores declaration (FAL form 3) if stores were taken from the port

Departure clearance will be issued by immigration once above documents are cleared. (this may not be required if the destination port is also in the same country).

Port documents for oil tankers

- Certificate of Insurance with respect to Civil Liability for Oil Pollution Damage (CLC) – for vessels carrying more than 2000 t of persistence oil cargo in bulk.
- Ship / shore safety check list – completed by the chief officer and terminal.
- OBQ certificate – verification of Onboard Board Quantity by a surveyor. Usually done when carrying same cargo as the previous voyage.
- Empty Tank certificate – certificate issued by a surveyor confirming the tanks are empty, clean and fit to receive the nominated cargo.
- Types of last 3 cargoes (during last three voyages) and tank preparation report – this is required by the terminal/surveyor to make sure the tank cleaning is done in accordance with the company guide lines.
- Vessel's Experience Factor (VEF) – the ratio between loaded amount in accordance with the ship calculation and terminal calculation. This is important to avoid cargo disputes. Depending upon the trade requirements, VEF may be required for last 5 voyages to a maximum of 20

voyages. Mostly, it is for last 10 years. Following voyages are excluded from the calculation of VEF:

- Maiden voyage
 - STS operations
 - Voyage after dry dock/major alteration
-
- Slop certificate – issued by a surveyor stating the volumes, ullages and interface of the onboard slop amounts.
 - Sample witness certificate – completed by chief officer and surveyor to ensure the cargo is sampled to avoid off specific cargo disputes.
 - Seal certificate – issued by a surveyor stating that the cargo sea chest and overboard are closed. This is a precaution against pollution and required by some ports only.
 - Pumping log – need to keep a record of any slowdown and stoppages of discharging during the discharging operations, to avoid demurrage disputes as the cargoes are discharged by using ship's pumps.
 - ROB / Dry tank certificate – issued by a surveyor at the discharged port stating the ROB is un-pumpable even the ships pumps are in good working order.
 - Cargo receipt – issued by the receiver/loading master at the port of discharged acknowledging the cargo is received.

SHIP'S AND CARGO DOCUMENTS

Please be kind enough to refer the “Guide to Chief Mate’s Oral Examinations” as well, because most of the certification requirements are addressed in detail in that book. Only those areas which are not covered in that book are addressed under this topic.

A) Statutory certificates and trading certificates

Remember, the term ‘statutory certificate’ is not defined internationally. Therefore, individual flag states may have different meanings for the terms ‘statutory certificate’ and ‘trading certificate’. According to the customary practices of Sri Lanka, ‘statutory certificates’ means the certificates that are required to be carried by a vessel in accordance with the Sri Lankan regulations and all other certificates are known as ‘trading certificates’. Some flag states call all the certificates to be carried onboard as trading certificates.

B) Official log books

Masters are required to familiar with the flag state regulations concerning the official logbooks as different flag states have different regulations and requirements.

Make sure the required entries by the flag are entered and all these entries must be statements of facts. No ideas or opinions shall be entered.

If any correction to be made on an entry made in the official logbook, the corrected entry shall be made stating the former statement to be amended or cancelled and initial the statement without crossing through the initial entry.

Once the last entry is made to an official logbook, it shall be retained onboard for a time period required and/or returned to the flag state.

C) Continuous Synopsis Record (CSR)

The master shall ensure to update the CSR when and where necessary and shall ensure the contents of the CSR are accurate. Therefore, refer the below CSR for better understanding.



FORM 1
CONTINUOUS SYNOPSIS RECORD (CSR) DOCUMENT
NUMBER1..... FOR THE SHIP
WITH IMO NUMBER: IMO9539389.....

Information	
1	This document applies from (date): 2012/03/13 (yyyy/mm/dd)
2	Flag State: Hong Kong, China
3	Date of registration with the State indicated in 2: 2012/03/13 (yyyy/mm/dd)
4	Name of ship:
5	Port of registration: Hong Kong
6	Name of current registered owner: Registered Address:
7	Registered owner identification number:
8	If applicable, name of current registered bareboat/demise charterer(s): Registered Address(es): N/A
9	Name of Company (International Safety Management): Registered Address(es): Address(es) of its safety management activities:
10	Company identification number:
11	Name(s) of all classification societies with which the ship is classed:
12	Administration/Government/Recognized Organization which issued Document of Compliance: Body which carried out audit (if different):
13	Administration/Government/Recognized Organization which issued Safety Management Certificate: Body which carried out audit (if different):
14	Administration/Government/Recognized Security Organization which issued International Ship Security Certificate: Body which carried out verification (if different):

FORM 1
 CONTINUOUS SYNOPSIS RECORD (CSR) DOCUMENT
 NUMBER1..... FOR THE SHIP
 WITH IMO NUMBER: IMO9539389.....

15	Date on which the ship ceased to be registered with the State indicated in 2:	N/A (yyyy/mm/dd)
16	Remarks (insert relevant information as appropriate):	N/A

THIS IS TO CERTIFY THAT this record is correct in all respects. Issued by the Administration of: Hong Kong, China		
Place of issue:	Hong Kong	Date of issue 2012/03/13 (yyyy/mm/dd)
Name of authorized person:	Signature of authorized person:	

This document was received by the ship and attached to the ship's CSR file on the following date [fill in (yyyy/mm/dd)] Signature:

Each CSR issued has a consecutive number, above CSR is the first CSR issued to this particular vessel since she was a brand-new ship. The next CSR that will be issued (if any changes are made) will be numbered as '**number 2**'. A new CSR will be issued if any changes are made to:

- Ownership of the vessel
- Address of the owner
- Flag
- Ship's name
- Classification society

If any changes are required to be made, as soon as possible, the master shall complete the Form 2 (refer below) along with the changes that need to be made and forward it to the flag administration. The administration will issue a new CSR with the next consecutive number and the master shall update the index of amendments Form 3 (refer below) and attach the new CSR into the record onboard.

FORM 2

**AMENDMENTS TO THE CONTINUOUS SYNOPSIS RECORD (CSR) DOCUMENT NUMBER
..... FOR THE SHIP WITH IMO NUMBER: IMO**

The amendments are shown in the table. Indicate N/C for all items not being changed. Dates should be in the format *yyyy/mm/dd*.

Information	
1 This document applies from (date):	
2 Flag State:	
3 Date of registration with the State indicated in 2:	
4 Name of ship:	
5 Port of registration:	
6 Name of current registered owner(s): Registered address(es):	
7 Registered Owner Identification Number	
8 If applicable, name of current registered bareboat charterer(s): Registered address(es):	
9 Name of Company (International Safety Management): Registered address(es): Address(es) of its safety management activities:	
10 Company (International Safety Management) Identification Number	
11 Name of all classification societies with which the ship is classed:	
12 Administration/Government/ Recognized Security Organization which issued Document of Compliance: Body which carried out audit (if different):	
13 Administration/Government/ Recognized Organization which issued Safety Management Certificate: Body which carried out audit (if different):	
14 Administration/Government/ Recognized Organization which issued International Ship Security Certificate: Body which carried out verification (if different):	
15 Date on which the ship ceased to be registered with the State indicated in 2:	
16 Remarks (<i>insert relevant information as appropriate</i>):	

THIS IS TO CERTIFY THAT this record is correct in all respects.

Issued by the **Company** or **Master**: _____
 Date of issue: _____
 Signature of authorized person: _____
 Name of authorized person: _____

D) GMDSS radio log

The master is required to inspect and sign each day's entries in the GMDSS radio logbook. Therefore, the master should know what to check before signing the radio logbook. The radio logbook entries to be made in accordance with the STCW Code are provided below. Need to refer the flag State regulations for further guidance. The following shall be recorded in the GMDSS radio log along with the time:

- a summary of distress, urgency and safety radiocommunications;
- important incidents relating to the radio service. These important incidents could be (Compiler's note - following examples are not from the STCW Code);
 - breakdown or serious malfunction of the GMDSS equipment;
 - a breakdown of communications with coast stations, land earth stations or satellites;
 - adverse propagation conditions, such as ionospheric, static, atmospheric noise or general interference;
 - serious breaches of radio procedures by other stations; and
 - any incident connected with the radio service, which appears to be of importance to the safety of life at sea.

- where appropriate, the position of the ship at least once per day;
- a summary of the condition of the radio equipment, including its sources of energy;
- the master should bear in mind that all personnel assigned responsibility for sending a distress alert must be instructed with regards to, be knowledgeable of, and be able to operate properly all radio equipment on the ship, as required by regulation 1/14, paragraph 1.5. This should be recorded in the deck logbook or radio logbook;
- necessary instruction and information on use of radio equipment and procedures for distress and safety purposes should be given periodically to all relevant crew members by the person designated in the muster list to have primary responsibility for radiocommunications during distress incidents. This should be recorded in the radio log;
- prior to sailing, the radio operator designated as having primary responsibility for radiocommunications during distress incidents should ensure that all distress and safety radio equipment and the reserve source of energy are in an efficient working condition, and that this is recorded in the radio log;
- While at sea, the radio operator designated as having primary responsibility for radiocommunications during distress incidents should ensure the proper functioning of:
 - the digital selective calling (DSC) distress and safety radio equipment by means of a test call at least once each week; and
 - the distress and safety radio equipment by means of a test at least once each day but without radiating any signal.

The results of these tests should be recorded on the radio log.

- unauthorized transmissions and incidents of harmful interference should, if possible, be identified, recorded in the radio log and brought to the attention of the Administration in

compliance with the Radio Regulations, together with an appropriate extract from the radio log.

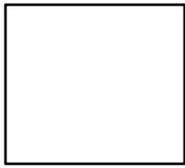
- following tests are required to be carried out with regards to batteries and should be recorded in the radio logbook:
 - tested on-load and off-load daily and, where necessary, brought up to the fully charged condition;
 - tested once per week by means of a hydrometer where practicable, or, where a hydrometer cannot be used, by a suitable load test; and
 - checked once per month for the security of each battery and its connections and the condition of the batteries and their compartment or compartments.

E) Oil record book Part – I

Each completed page of the oil record book Part – I is required to be counter signed by the master. Therefore, a master needs to have a good idea about the content and how it is to be completed. Following is a set of guidelines issued by IMO through MEPC.1/Circ.736/Rev.2 with regards to Oil Record Book (ORB) Part – I:

- This guidance only includes sections C to I of the Oil Record Book.
- Operations should be recorded in chronological order as they have been executed on board.
- Dates should be entered in dd-MONTH-yyyy format, e.g. 16-MAR-2009.
- Incineration or landing ashore of oily garbage and used filters should be recorded in the Garbage Record Book only.
- All Entries are to be made and signed by the officer or officers in charge of the operations concerned and each completed page shall be signed by the master of the ship.
- Do not leave any full lines empty between successive entries.
- If a wrong entry has been recorded in the ORB, it should immediately be struck through with a single line in such a way that the wrong entry is still legible. The wrong entry should be signed and dated, with the new corrected entry following.
- Tank nomenclature should be recorded as per the format noted within the International Oil Pollution Prevention Certificate (IOPPC).
- Recording of quantities retained in bilge water holding tanks listed under section 3.3 of the IOPPC is voluntary and not required by the Convention.
- The recording of general maintenance of items pertaining to the Oily Water Separator remains voluntary and is not required to be recorded in the ORB.

The above guidelines refer to IOPP certificates as well, especially when naming the tanks. Therefore, please refer the Form – A of IOPP certificate provided below to gain a good knowledge about it.



Record of Construction and Equipment for Ships other than Oil Tankers

FORM A

Supplement to the International Oil Pollution Prevention Certificate

in respect of the provisions of Annex I of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as "the Convention").

Notes:

1. This form is to be used for the third type of ships as categorized in the IOPP Certificate, i.e. "ships other than any of the above". For oil tankers and ships other than oil tankers with cargo tanks coming under regulation 2.2 of Annex I of the Convention, Form B shall be used.
2. This Record shall be permanently attached to the IOPP Certificate. The IOPP Certificate shall be available on board the ship at all times.
3. Entries in boxes shall be made by inserting either a cross (X) for the answer "yes" and "applicable" or a dash (-) for answers "no" and "not applicable" as appropriate.
4. Regulations mentioned in this Record refer to regulations of Annex I of the Convention and resolutions refer to those adopted by the International Maritime Organisation.

1. Particulars of Ship

1.1 Name of ship

1.1.1 IMO number

1.2 Distinctive number or letters

1.3 Port of registry

1.4 Gross tonnage

1.5 Date of Build

1.5.1 Date of building contract

1.5.2 Date on which keel was laid or ship was at a similar stage of construction

1.5.3 Date of delivery

1.6. Major conversion (if applicable)

1.6.1 Date of conversion contract

1.6.2 Date on which conversion was commenced

1.6.3 Date of completion of conversion

- 1.7 The ship has been accepted by the Administration as a "ship delivered on or before 31 December 1979" under regulation 1.28.1 due to unforeseen delay in delivery



HONG KONG

14,859

19 August 2008

22 November 2010

12 March 2012

Not applicable

Not applicable

Not applicable

2. Equipment for the control of oil discharge from machinery space bilges and oil fuel tanks (regulations 16 and 14)

2.1 Carriage of ballast water in oil fuel tanks:

- 2.1.1 The ship may under normal conditions carry ballast water in oil fuel tanks

x 2.1.2 The ship does not under normal conditions carry ballast water in oil fuel tanks

2.2 Type of oil filtering equipment fitted:

- 2.2.1 Oil filtering (15ppm) equipment (regulation 14.6):

2.2.1.1 Manufacturer

2.2.1.2 Type and model number as per Certificate of Type Test

- x 2.2.2 Oil filtering (15ppm) equipment with alarm and automatic stopping device (regulation 14.7):
 - 2.2.2.1 Manufacturer **Filter:** **Coffin World Water Systems**
 - Alarm:** **Rivertrace Engineering Ltd.**
 - Automatic Stopping Device:** **3 way valve**
 - 2.2.2.2 Type and model number as per Certificate of Type Test **Filter:** **Ultra-Sep Bilge Water Separator US 3000**
 - Alarm:** **Smart Cell - Bilge**
- 2.3 Approval Standards:
 - 2.3.1 The separating/filtering equipment:
 - 2.3.1.1 has been approved in accordance with resolution A.393(X)
 - 2.3.1.2 has been approved in accordance with resolution MEPC.60 (33)
 - x 2.3.1.3 has been approved in accordance with resolution MEPC.107(49)
 - 2.3.1.4 has been approved in accordance with resolution A.233(VII)
 - 2.3.1.5 has been approved in accordance with national standards not based upon resolution A.393(X) or A.233(VII)
 - 2.3.1.6 has not been approved
 - 2.3.2 The process unit has been approved in accordance with resolution A.444(XI)
 - 2.3.3 The oil content meter:
 - 2.3.3.1 has been approved in accordance with resolution A.393(X)
 - 2.3.3.2 has been approved in accordance with resolution MEPC.60(33)
 - x 2.3.3.3 has been approved in accordance with resolution MEPC.107(49)
- 2.4 Maximum throughput of the system is **3 m³/h**
- 2.5 Waiver of regulation 14:
 - 2.5.1 The requirements of regulation 14.1 or 14.2 are waived in respect of the ship in accordance with regulation 14.5.
 - 2.5.1.1 The ship is engaged exclusively on voyages within special area(s)
 - 2.5.1.2 The ship is certified under the International Code of Safety for High-Speed Craft and engaged on a scheduled service with a turn-around time not exceeding 24 hours
 - 2.5.2 The ship is fitted with holding tank(s) for the total retention on board of all oily bilge water as follows:

Tank Identification	Tank Location		Volume (m ³)
	Frames (from)-(to)	Lateral Position	

- x 2A.1 The ship is required to be constructed according to regulation 12A and complies with the requirements of:
 x paragraphs 6 and either 7 or 8 (double hull construction)
 - paragraph 11 (accidental oil fuel outflow performance).
 - 2A.2 The ship is not required to comply with the requirements of regulation 12A.

3. Means for retention and disposal of oil residues (sludge) (regulation 12) and oily bilge water holding tank(s)¹

- x 3.1 The ship is provided with oil residue (sludge) tanks for retention of oil residues (sludge) on board as follows:

Tank Identification	Tank Location		Volume (m ³)
	Frames (from)-(to)	Lateral Position	
No. 1 Sludge Tank	30-37	Starboard	33.7
No. 2 Sludge Tank	33-38	Centre	5.0
Waste Oil Tank	20-24	Starboard	22.7
Total Volume (m³)			61.4

3.2 Means for the disposal of oil residues (sludge) retained in oil residue (sludge) tanks:

- 3.2.1 Incinerator for oil residues (sludge); maximum capacity litre/hour
- 3.2.2 Auxiliary boiler suitable for burning oil residues (sludge)
- 3.2.3 Other acceptable means, state which

- x 3.3 The ship is provided with holding tank(s) for the retention onboard of oily bilge water as follows:

Tank Identification	Tank Location		Volume (m ³)
	Frames (from)-(to)	Lateral Position	
Bilge Water Tank	13-20	Centre	20.4
Total Volume (m³)			20.8

¹ Oily bilge water holding tank(s) are not required by the Convention; if such tank(s) are provided they shall be listed in Table 3.3.

- 4. Standard Discharge Connection (regulation 13)
 - x 4.1 The ship is provided with a pipeline for the discharge of residues from machinery bilges and sludges to reception facilities, fitted with a standard discharge connection in accordance with regulation 13.

- 5. Shipboard Oil/Marine Pollution Emergency Plan (regulation 37)
 - x 5.1 The ship is provided with a shipboard oil pollution emergency plan in compliance with regulation 37
 - 5.2 The ship is provided with a shipboard marine pollution emergency plan in compliance with regulation 37.3 approved by

dated **11 November 2011**

- 6. Exemption
 - 6.1 Exemptions have been granted by the Administration from the requirements of chapter 3 of Annex I of the Convention in accordance with regulation 3.1 on those items listed under paragraph(s) of this Record

- 7. Equivalents (regulation 5)
 - 7.1 Equivalents have been approved by the Administration for certain requirements of Annex I on those items listed under paragraph(s) of this Record

Since the master is required to sign the ORB, he must ensure that correct data is entered in the ORB. When entering data to the ORB, certain codes and numbers are required to be referred which are also given in the ORB. Refer the MEPC.1/Circ.736/Rev.2 (or the latest) of IMO with regards on how to enter the data in the ORB and refer the below abstracts of an ORB with examples issued by US coast guard³ to gain further knowledge of completing it.

³ https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/CG-CVC/Marpol/sdoc/MEPC_1_Circ_736_rev_2.pdf (Accessed: 11/11/2025)

LIST OF ITEMS TO BE RECORDED
PART I - Machinery Space Operations

(A) BALLASTING OR CLEANING OF OIL FUEL TANKS

- 1 Identity of tank(s) ballasted.
- 2 Whether cleaned since they last contained oil and, if not, type of oil previously carried.
- 3 Cleaning process:
 - .1 position of ship and time at the start and completion of cleaning;
 - .2 identify tank(s) in which one or another method has been employed (rinsing through, steaming, cleaning with chemicals; type and quantity of chemicals used, in m³, gals., or bbls);
 - .3 identity of tank(s) into which cleaning water was transferred and the quantity in m³, gals., or bbls.
- 4 Ballasting:
 - .1 position of ship and time at start and end of ballasting;
 - .2 quantity of ballast if tanks are not cleaned, in m³, gals., or bbls.

(B) DISCHARGE OF DIRTY BALLAST OR CLEANING WATER FROM OIL FUEL TANKS REFERRED TO UNDER SECTION (A)

- 5 Identity of tank(s).
- 6 position of ship at start of discharge.
- 7 Position of ship on completion of discharge.
- 8 Ship's speed(s) during discharge.
- 9 Method of discharge:
 - .1 through 15 ppm equipment;
 - .2 to reception facilities.
- 10 Quantity discharged, in m³, gals., or bbls.

(C) COLLECTION, TRANSFER AND DISPOSAL OF OIL RESIDUES (SLUDGE AND OTHER OIL RESIDUES)

- 11 Collection of oil residues (sludge).

Quantities of oil residues (sludge) retained on board. The quantity should be recorded weekly¹: (this means that the quantity must be recorded once a week even if the voyage lasts more than one week):

 - .1 identity of tank(s)
 - .2 capacity of tank(s) in m³, gals., or bbls.
 - .3 total quantity of retention in m³, gals., or bbls.
 - .4 quantity of residue collected by manual operation in m³, gals., or bbls.
(Operator initiated manual collections where oil residue (sludge) is transferred into the oil residue (sludge) holding tank(s).)
- 12 Methods of transfer or disposal of oil residues (sludge).

State quantity of oil residues transferred or disposed of, the tank(s) emptied and the quantity of contents retained in m³, gals., or bbls:

 - .1 to reception facilities (identify port);²
 - .2 to another (other) tank(s) (indicate tank(s) and the total content of tank(s));
 - .3 incinerated (indicate total time of operation with time of start and stop);
 - .4 other method (state which).

NOTES:

¹ Only those tanks listed in item 3.1 of Forms A and B of the Supplement to the IOPP Certificate used for oil residues (sludge).

² The ship's master should obtain from the operator of the reception facilities, which includes barges and tank trucks, a receipt or certificate detailing the quantity of tank washings, dirty ballast, residues or oily mixtures transferred, together with the time and date of the transfer. This receipt or certificate, if attached to the Oil Record Book Part I, may aid the master of the ship in proving that the ship was not involved in an alleged pollution incident. The receipt or certificate should be kept together with the Oil Record Book Part I.

(D) NON-AUTOMATIC STARTING OF DISCHARGE OVERBOARD, TRANSFER OR DISPOSAL OTHERWISE OF BILGE WATER WHICH HAS ACCUMULATED IN MACHINERY SPACES

- 13 Quantity discharged, transferred or disposed of, in m³, gals., or bbls.¹
- 14 Time of discharge, transfer or disposal (start and stop).
- 15 Method of discharge, transfer, or disposal:
 - .1 through 15 ppm equipment (state position at start and end);
 - .2 to reception facilities (identify port);²
 - .3 to slop tank or holding tank or other tank(s) (indicate tank(s); state quantity retained in tank(s), in m³, gals., or bbl).

(E) AUTOMATIC STARTING OF DISCHARGE OVERBOARD, TRANSFER OR DISPOSAL OTHERWISE OF BILGE WATER WHICH HAS ACCUMULATED IN MACHINERY SPACES

- 16 Time and position of ship at which the system has been put into automatic mode of operation for discharge overboard, through 15 ppm equipment.
- 17 Time when the system has been put into automatic mode of operation for transfer of bilge water to holding tank (identify tank).
- 18 Time when the system has been put into manual operation.

(F) CONDITION OF THE OIL FILTERING EQUIPMENT

- 19 Time of system failure.³
- 20 Time when system has been made operational.
- 21 Reasons for failure.

¹(If a failure does occur then a code 'I' entry should also be made indicating that the overboard valve was sealed shut due to non working Oil Filtering Equipment or Oil Content Meter.)

²(When operation is restored, a code 'I' entry should also be made indicating that the overboard valve was unsealed since the operation of the Oil Filtering Equipment or Oil Content Meter has been restored.)

(G) ACCIDENTAL OR OTHER EXCEPTIONAL DISCHARGES OF OIL

- 22 Time of occurrence.
- 23 Place or position of ship at time of occurrence.
- 24 Approximate quantity and type of oil.
- 25 Circumstances of discharge or escape, the reasons there for and general remarks.

(H) BUNKERING OF FUEL OR BULK LUBRICATING OIL

- 26 Bunkering:
 - .1 Place of bunkering.
 - .2 Start and stop date and time of bunkering.
 - .3 Type and quantity of fuel oil and identity of tank(s) (state quantity added, in tons, m³, gals., or bbls., and total content of tank(s)).
 - .4 Type and quantity of lubricating oil and identity of tank(s) (state quantity added, in tons, m³, gals., or bbls., and total content of tank(s)).

(I) ADDITIONAL OPERATIONAL PROCEDURES AND GENERAL REMARKS

NOTES:

¹ In case of discharge or disposal of bilge water from holding tank(s), state identity and capacity of holding tank(s) and quantity retained in holding tank.

² The ship's master should obtain from the operator of the reception facilities, which includes barges and tank trucks, a receipt or certificate detailing the quantity of tank washings, dirty ballast, residues or oily mixtures transferred, together with the time and date of the transfer. This receipt or certificate, if attached to the Oil Record Book Part I, may aid the master of the ship in proving that the ship was not involved in an alleged pollution incident. The receipt or certificate should be kept together with the Oil Record Book Part I.

³ The condition of the oil filtering equipment covers also the alarm and automatic stopping devices, if applicable.

EXAMPLES

Name of Ship M/V ALL SHIPS
 Official Number 413567

CARGO/BALLAST OPERATIONS (Oil Tanker) / MACHINERY SPACE OPERATIONS

Date	Code	Item	Record of Operations/signature of officers in charge		
			BALLASTING/CLEANING FUEL TANKS		
07-OCT-2010	A	1	No. 5 DB Port and Stbd		
		2	No, Fuel oil IFO 380		
		3.1	49°56' N x 30°00'W - Start 1605		
			50°00' N x 29°58'W - Stop 1730		
		3.2	No. 5 DB Port and Stbd, Rinsing through		
		3.3	No. 1 Collecting tank		
		4.1	Start ballast 50°00' N x 29°58'W at 1730		
			End ballast 50°04' N x 29°56'W at 2357		
			J. Brennan		
			DISCHARGE FROM CLEANED OIL TANKS		
10-OCT-2010	B	5	No. 1 Collecting tank		
		6	Jety Oil Contractors, New York, NY		
		7	Jety Oil Contractors, New York, NY		
		8	0 kty		
		9.2	Reception Facility		
		10	52.5 m ³		
			J. Brennan		
			EXAMPLE: VOYAGE/WEEKLY SLUDGE REPORT		
				Capacity	Ret.
11-OCT-2010	C	11.1/ 11.2	Sludge Tank #6	67.4m ³	21.7m ³
		11.1/ 11.2	Sludge Tank #12	5.0 m ³	4.4m ³
		11.3	Total Retained on Board		26.1m ³
		11.4	Weekly Total of Manual Transfers		0.68m ³
			M.A. Carroll		

John Cate
 Signature of Master

EXAMPLES

Name of Ship M/V ALL SHIPS
 Official Number 413567

CARGO/BALLAST OPERATIONS (Oil Tanker) / MACHINERY SPACE OPERATIONS

Date	Code	Item	Record of Operations/signature of officers in charge
			EXAMPLE: RECORDING OF OIL RESIDUE (SLUDGE) COLLECTED BY MANUAL OPERATION & TRANSFERRED INTO AN OIL RESIDUE (SLUDGE) TANK
11-OCT-2010	C	12	1.5 gal collected from galley deep fat fryer
		12.4	Transferred to Sludge Tank #6, Ret. 23.2m ³
			M.A. Carroll
11-OCT-2010	C	12	0.5 m ³ collected from #2 air compressor sump tank
		12.4	Transferred to Sludge Tank #6, Ret. 23.7m ³
			M.A. Carroll
11-OCT-2010	C	12	0.5 m ³ collected from turbo charger sump
		12.4	Transferred to Sludge Tank #6, Ret. 24.2m ³
			M.A. Carroll
			EXAMPLE: SLUDGE TRANSFER
11-OCT-2010	C	12	0.5 m ³ (3 drums) sludge from cleaning #4 Collection Tank, Ret.: 0.00 m ³
		12.1	Landed, Providence, RI
			M. Walter
			EXAMPLE: SLUDGE TRANSFER
11-OCT-2010	C	12	2.6 m ³ from HFO Sludge Tk, Ret.: 0.1 m ³
		12.2	To no 1 Waste Oil Tk, Ret.: 9.1m ³
			M. Walter

John Cate
 Signature of Master

EXAMPLES

Name of Ship M/V ALL SHIPS

Official Number 413567

CARGO/BALLAST OPERATIONS (Oil Tanker) / MACHINERY SPACE OPERATIONS

Date	Code	Item	Record of Operations/signature of officers in charge
			EXAMPLE: INCINERATION OF SLUDGE
11-OCT-2010	C	12	0.8 m ³ , Incinerator Sludge Tk, Ret.: 0.2 m ³
		12.3	Incinerated, 4 hrs: 1200hrs - 1600hrs
			M. Walter
			EXAMPLE: EVAPORATION OF WATER
11-OCT-2010	C	12	0.2 m ³ Water from Incinerator Sludge Tk, Ret.: 0.8 m ³
		12.4	Evaporated to Atmosphere
			J. Brennan
			EXAMPLE: BILGE WATER DISPOSAL (OWS)
06-DEC-2010	D	13	14 m ³ oily bilge water from bilge Hldg Tk, Capacity: 9.1m ³ , Ret. 1.1m ³
		14	Start 0000 - Stop 0300
		15.1	50°00' N x 29°58'W - Start
			49°56' N x 30°00'W - Stop
			K. Brennan
			EXAMPLE: OILY BILGE WATER TO RECEPTION FACILITIES
06-JAN-2011	D	13	16.3 m ³ Oily Bilge Water from bilge Hldg Tk, Capacity: 9.1m ³ , Ret. 0.1m ³
		14	Start 1000hrs - Stop 1430hrs
		15.2	To Shell Oil Refinery, Anacortes, WA
			Z.L. Hughes
			EXAMPLE: OILY BILGE WATER TRANSFER
06-JAN-2011	D	13	16.3 m ³ Bilge Water from P/S Bilge Wells
		14	Start 1000hrs - Stop 1430hrs
		15.3	To Bilge Holding Tk, Ret. 10.1 m ³
			Z.L. Hughes

John Cate
Signature of Master

EXAMPLES

Name of Ship M/V ALL SHIPS
 Official Number 413567

CARGO/BALLAST OPERATIONS (Oil Tanker) / MACHINERY SPACE OPERATIONS

Date	Code	Item	Record of Operations/signature of officers in charge
			EXAMPLE: PLACING BILGE PUMP IN AUTO
06-JAN-2011	E	17	0820 hrs to Bilge Holding Tank <i>K. Brennan</i>
			EXAMPLE: PLACING BILGE PUMP IN MANUAL
06-JAN-2011	E	18	1630 hrs <i>K. Brennan</i>
			EXAMPLE: FAILURE OF MONITORING/CONTROL
06-JAN-2010	F	19	Stop due to failure 1000
		20	Item repaired, Started 1130
		21	Recirculation valve opening prematurely, Cleaned lens; all in apparent good order. <i>L. Kowalzy</i>
			EXAMPLE: ACCIDENTAL OR OTHER EXCEPTIONAL DISCHARGES OF OIL
24-JAN-2010	G	22	1500
		23	Poland Ave Warf, New Orleans, LA
		24	0.2 m ³ No. 2 Diesel oil fuel
		25	Ruptured bunkering hose <i>L. Kowalzy</i>

John Cate
 Signature of Master

EXAMPLES

Name of Ship M/V ALL SHIPS
 Official Number 413567

CARGO/BALLAST OPERATIONS (Oil Tanker) / MACHINERY SPACE OPERATIONS

Date	Code	Item	Record of Operations/signature of officers in charge
			EXAMPLE: BUNKERING
17-JAN-2010	H	26.1	Boston, Mass. USA
		26.2	Start 17JAN2010 at 2210 - Stop 18JAN2010 at 0130
		26.3	600 m ³ of IFO 380 Fuel oil 3.0% Sulfur Bunkered in tanks:
			F.O. Tank #4 Added 50m ³ ; Ret. 220m ³
			F.O. Tank #5 Added 210m ³ ; Ret. 230 m ³
			F.O. Tank #6 Added 340m ³ ; Ret. 402 m ³
			M. Broughton
			EXAMPLE: TESTING OF OIL WATER SEPARATOR
21-JAN-2010	I		Test operated OWS for USCG
			Discharged processed water to bilge
			From Bilge Holding Tank, Ret. 13.2 m ³
			OWS overboard valves remained closed and no water was processed overboard
			Z.L. Hughes
			EXAMPLE: ENTRY PERTAINING TO AN EARLIER MISSED OPERATIONAL ENTRY
22-JAN-2011 (1)	I		Entry pertaining to an earlier missed operational entry
24-JAN-2011 (2)	C	12	2.6 m ³ from HFO Sludge Tk, Ret.: 0.1 m ³
		12.3	To no 1 Waste Oil Tk, Ret.: 9.1m ³
			Signed(1): M. Broughton
			Signed(2): Z.L. Hughes

John Cate
 Signature of Master

F) **Bills of lading**

A master must ensure that the correct information is included on a bill of lading before signing it. Otherwise, the ship owner could be liable for the cargo owners. When signing a bill of lading ensure to enter the signature at the place allocated for the master's signature. Under any circumstances never sign next to the shipper's description of the cargo as it may be interpreted that the master has accepted the shipper's declaration of cargo.

At the same time, ensure the bill of lading is in English and check the following before signing a bill of lading:

- Some trades and charter parties require master to have a letter of authorization from the charterer to sign a bill of lading by a master. In that case, ensure you have a letter of authorization from the relevant party.
- Ensure the bill of lading is in the required format as required by charterer or shipowner etc. (example – “CONGENBILL 2016” bill of lading)
- Vessel's name is correct.
- Bill of lading to be dated same as the date of completion of loading.
- Port of loading is correct.
- Number of original bills issued are correctly entered. Ensure to sign that number of originals and such originals shall be stamped or marked as “Original”.
- Ensure the copies are marked or stamped as “Non-negotiable copy”.
- Charterparty is correctly stated on the bill if applicable.
- Port of discharging is correct, and the discharging port is;
 - safe for the vessel;
 - within the insurance coverage limits; and
 - within the charterparty coverage limits.
- Cargo is correctly described, which includes:
 - Weight/quantity
 - Apparent order and condition
 - Packing condition
 - Shipping/identification marks
- Protective clauses are inserted as required by the ship owner. Example:
 - Both to blame clause
 - For steel and timber shipments : Retla clause
 - Always afloat clause etc.
- If the dead freight is outstanding, the bill of lading shall state the amount outstanding in case of voyage a charter.

If the bill of lading to be signed by charterer or agent on behalf of the master, make sure the mate's receipt is containing correct information which represent the cargo received and the master has to make a written guidance to charterers or owners stating that the bill of lading to be signed only in accordance with the mate's receipt. The master shall protest if charterer or the agent refuse to do so.

Need to contact P & I club and owners if (but not limited to);

- the master suspect that the shipper has signed the bills on behalf of the master without his/her consent;
- the charterer or agent has signed the bills on behalf of the master with his/her consent, but if it is not in accordance with the mate's receipt;
- the master suspect that he/she has signed the bill of lading under duress.
- the shipper objects Clausing a bill (when there are discrepancies with the cargo actually loaded and the bills of lading presented for signature); and
- the bill is not presented at the port of discharging by the person who is claiming the delivery of the cargo.

In various occasions as mentioned below (under the heading of 'Letters of indemnity') a master may have to sign bills of lading against a letter of indemnity. But remember the letter of indemnity shall be received by the carrier not by the master and the carrier shall provide clear written guidance to the master about signing the bills of lading.

Actions to be taken when there are discrepancies between terminal and onboard cargo figures at the loaded port

When a bill of lading is presented to a master for his signature, he must ensure that the bill of lading represents the actual cargo onboard. It is a common problem that the ships calculated amount may differ from the figure stated on the bill of lading in the case of dry and wet bulk trades. If the master signs the bill of lading for an amount of cargo which has not received, the carrier may be liable for the less amount of cargo.

Therefore, a master needs to check the less amount of cargo is within an accepted range. There are no internationally accepted ranges. Refer the guidelines issued by P & I club as they may have defined accepted ranges or check the charterparty (MOL, MOLCHOPT, MOLOO). If the less amount of cargo is within the accepted range:

- Convince the shipper to include ship's figure on the bill of lading
- Try to include the term "weight/quantity unknown"
- If the shipper cannot be convinced, a master may sign the bill of lading as it is. In that case:
 - The carrier can recover the losses incurred due to the less amount of cargo at the port of discharged, if he is indemnified by the shipper or

- If he is not indemnified, the carrier will be held covered by P & I club for the less cargo.
- Issue a letter of protest stating the ship's figures and keep all other records regarding the cargo weight calculation safely

If the less amount of cargo is beyond the accepted range:

- Refuse to sign and convince the shipper to include ship's figure on the bill of lading and if he is not accepting, inform the carrier, P & I Club and call for a recalculation of cargo, most probably a joint draught survey (the master may take the vessel to an anchorage to avoid extra expenses at the berth). Still if it is beyond accepted range:
 - Refuse to sign and convince the shipper to include both ship and shore figures on the bill of lading. If it is refused, do not sign.
 - With permission of the carrier, master may sail the vessel leaving all the information to recalculate the actual amount of cargo to the carrier.
 - Make a letter of protest if not allowed to sail or if somebody else has signed the bill of lading for the shore figures on behalf of the master.
 - Master shall not sign the bill for shore figures if there is a discrepancy.
 - Keep a record of all the events throughout.

There is no point of issuing a letter of protest after signing the bill of lading with shore figures which are obviously wrong (if outside the acceptable range). At the same time there is no point of inserting the term 'weight/quantity unknown' if the cargo discrepancy is beyond the acceptable range.

The carrier may instruct a master to sign the bill as it is, provided the carrier is indemnified by the shipper. Master must ensure that such instructions are received in written form.

Acceptable margin

As stated above, there is no any universally accepted margin and need to refer the P & I Club guidelines and the charterparty. The North of England P & I, states that if the discrepancy is more than 0.3%, it shall be investigated (with regards to the **liquid cargoes**).

Cargo shortages at the port of delivery

Cargo shortages at the port of discharge may occur due to inaccurate bill of lading or incorrect cargo calculations at the port of discharge (which is commonly known as 'paper loss') or due to 'actual loss'. Actual losses of cargo may occur due to:

- Evaporation during sea passage (liquid cargoes)

- Clingage or sedimentation (liquid cargoes)
- Miss-handling of cargoes during discharging (dry cargo spillages)
- Cargo pilferage (with regards to dry cargoes)
- Improper discharging calculations at the port of discharge
- Pumping out bilges during passage when carrying wet dry bulk cargoes (such as ‘pond coal’)
- Evaporation of water with wet logs (when carrying logs)
- Loss of moisture with wheat cargoes
- Incorrect draught calculations at the port of loading due to weather conditions

In the case of cargoes such as cereal grains, coal, mineral ores, and liquid tanker cargoes for which the quantity of cargo on the B/L is shown by weight, the quantity measured at the loading port (i.e. the quantity noted on the B/ L) and the quantity measured at the discharging port are compared, and any cargo shortage beyond the Trade Allowance (generally 0.5% of the quantity on the B/L) generally becomes the subject of a Cargo Claim⁴. But the master should discharge the amount stated on the bill of lading. This allowance is used to protect carriers against inevitable cargo losses due to evaporation, clingage, measurement errors at loading port etc., which are not the faults of a carrier.

But courts may accept if the accurate loaded amount was unable to calculate (due to weather conditions) or if the loss of cargo has taken place as provided in Article IV, Rule (2) (m) and (q) of the Hague Visby Rules. Therefore, if there is a discrepancy of cargo figure between the bill of lading and shore figures at the port of discharge, master shall:

- report to the owners & charterers about the discrepancy.
- inform P & I Club
- carryout out an investigation to determine the reasons for the cargo shortage.
- take photographic evidences and issue letter of protests in case of dry cargo spillages due to miss-handling by stevedores.
- keep records of bilge well pump outs.
- collect all possible records to prove that the carrier is not liable in accordance with Hague Visby Rules
- make a letter of protest.

A master shall not sign if requested to sign any documents related to cargo figures which shows shore/terminal figures if it does not tally with the chief officer’s calculations. If unavoidable, it may be signed with a remark which states ‘**without prejudice, for receipt only**’.

⁴ Japan P&I Club, Preventing cargo shortage, P&I loss prevention bulletin, Vol. 37, April 2016, https://www.piclub.or.jp/wp-content/uploads/2018/04/Loss-Prevention-Bulletin-Vol.37-Light_1.pdf (Accessed: 07/12/2025)

Types of bills of ladings used

a) Freight Prepaid bills of lading

In accordance with the English law, the carrier is entitled to receive the freight at the time of the delivery of the cargo to the holder of the bill of lading. But, to avoid the carrier exercising lien on the cargo or claiming freight from the holder of the bill of lading, freight may be paid beforehand. In that case, the carrier may issue freight prepaid bill of lading. Such a bill of lading implies that the carrier has already received the freight.

The master has to contact the owners/charterer and ensure that the freight is already received before signing a freight prepaid bill of lading.

b) Bearer bill of lading

Bearer bill of lading is a bill of lading where the name of a consignee is not entered, or the word 'bearer' is entered instead of the name of the consignee. The shipper may endorse the name of the consignee or transfer it to the buyer without endorsing. An order bill also can be converted to a bearer bill by an endorsement in blank. A bearer bill can be transferred by hand to the person who has the rights to hold it. The master has to deliver the goods to the person who is presenting an original bearer bill of lading.

These bills of ladings are very rarely used and there is a high risk of miss-delivering the cargo.

c) Negotiable bills of lading

These bills of ladings can be sold any number of times and has all the elements of a bill of lading, i.e.,

- Receipt for the cargo received
- Evidence of contract of carriage
- Document of title

These bills of ladings can be identified by;

- The bill may be printed as "Negotiable" or
- In the place where the consignee's name to be entered, words "order" or "to order" will be printed

These bills of ladings are also known as 'Order bills of lading' and one of the original bills is required to be presented to the master to take the delivery of the goods.

d) Straight bills of lading

These types of bills of lading can be sold once only, i.e. by the shipper to the first buyer only and they have a high security over the cargo than the negotiable bills of lading. These bills of lading also have all the functions of a bill of lading, i.e.;

- Receipt for the cargo received
- Evidence of contract of carriage
- Document of title

These bills of lading can be identified by;

- The bill may be printed as “Non-negotiable” or as “Straight bills of lading” or
- In the place where the consignee’s name to be entered, word “To” will be printed

One of the original bills is required to be presented to the master to take the delivery of the goods.

e) Waybills of lading

These bills of lading are not document of titles, i.e., they are not required to be presented to the master to take the delivery of the goods. Such a bill of lading is;

- a receipt for the cargo received
- an evidence of contract of carriage

These bills of lading are very commonly used in the container trade since delays can be avoided.

f) Claused bills of lading

A bill of lading can be considered as claused when;

- contains anything other than “Good apparent order and condition” with regards to the condition of the cargo or
- the mentioned data on the bill is amended by the master before it is issued (examples – date of the bill, apparent order and condition, weight/quantity of the cargo etc.)

g) Clean bills of lading

A bill of lading which is not claused, is called as a clean bill of lading.

h) “Received for shipment bills of ladings” and “shipped bills of ladings”⁵

These types of bills of ladings are issued by the carrier when the cargo is received by the carrier or his agent to their custody for carriage at the port of loading. Such a bill of lading may contain:

- Name of the expected carrying vessel
- Expected date of shipment
- Some of them may also contain;
 - Printed words “onboard” and
 - A place to sign by the master

Once the cargo is received onboard, the holder of this bill of lading shall surrender it to the carrier and replace with a ‘shipped bill of lading’ by the carrier. This may be done by stamping (stamping as ‘shipped onboard’ or similar wording) a ‘received for shipment bill of lading’ or by issuing a separate ‘shipped bill of lading.

i) Charterer’s bill of lading

If any cargo disputes are there at the time of the delivery of the cargo, the cargo owner may take legal action against the carrier to claim financial loss. The ‘carrier’ depends upon by whom the bill of lading is issued. If the bill of lading is signed by the master or someone else on behalf of the master, usually, shipowner will be the carrier. If the bill of lading is signed by the charterer or someone else on behalf of the charterer, charterer may be the carrier.

Bills of lading signed by the charterer or someone else on behalf of the charterer, is usually called as charterer’s bills of lading. In that case, the cargo owner will have to take legal action for cargo damage or cargo loss (occurred during the carriage) against the charterer.

When the master or someone else has signed the bill of lading, it is sometimes called as ‘ship owner’s bill of lading’.

j) Electronic bills of ladings

The concept of electronic bills of lading was developed to avoid mis-deliveries of cargoes at the port of discharge, to reduce costs and to avoid delays involved with paper bills of lading. The Rotterdam rules apply to both, paper and electronic bills of ladings, where the Hague, Hague/Visby and Hamburg rules apply only to paper bills of ladings. The operational aspects of the electronic bills of ladings is explained below.

⁵ Gard P & I Club, Gard guidance on bills of lading, https://assets.eu.ctfassets.net/jchk06tdml2i/1KzN7tcMHhaqwmF2DwcHRm/1be1fd79b0d227458f6d366fcd1bbf1c/Guidances_Gard_Guidance_bills_of_lading_March_2011.pdf (Accessed: 13/12/2025)

There are various electronic bills of lading systems in use and all the parties involved in the cargo carriage, i.e. shipper, carrier, bank and receiver, are required to use the same system.

There are few electronic bills of lading systems accepted by International Group (IG) of P & I Clubs⁶;

- The Bolero System (System provider's name – Bolero International Ltd)
- BRITC eBL (System provider's name – BRITC ETRADE SOLUTION CO., Ltd)
- CargoX (System provider's name – CargoX)
- Covantis eBL powered by Secro (System provider's name – Covantis)
- trace:original™ (System provider's name – Enigio AB)
- eTEU eBL Platform (System provider's name – eTEU Technologies Ltd)
- e-title system (System provider's name – E-Title Authority Pte Ltd)
- edoxOnline (System provider's name – Global Share S.A.)
- ICE CargoDocs [System provider's name – ICE Digital Trade (formerly essDOCS)]
- IQAX eBL (System provider's name – IQAX Limited)
- uLogisHub eBL platform [System provider's name – Korea Trade Network (KTNET)]
- Secro (System provider's name – Secro Inc.)
- TradeGo eBL (System provider's name – TradeGo PTE. LTD)
- WAVEBL [System provider's name – WAVE (WAVE Application)]
- DocuTrade (System provider's name – Yodaplus Technologies Pvt. Ltd)

There are systems that are not approved by IG of P & I Clubs as well. It is recommended to use approved systems, so that the liabilities will be covered as in paper bills of ladings.

If Members use unapproved systems, then they will have the additional hurdle of proving that the liability would have arisen even if a paper bill had been used before Club cover can incept⁷.

Like the use of any electronic data system, the use of all paperless trading systems carries with it potential cyber risks. These do not fall within Club cover⁸.

However, it is important to note that all exceptions and exclusions under the Club Rules continue to apply (as they would with a paper bill of lading). This includes the traditional exclusions of cover relating to the carriage of goods, such as⁹:

⁶ IGP&I, News and Insights, IG approved electronic bill of lading systems, <https://www.igpandi.org/article/ig-approved-electronic-bill-of-lading-systems/> (Accessed: 13/11/2025)

⁷ WEST P&I, Paperless trading – A guide to electronic bills of lading, <https://www.westpandi.com/news-and-resources/bills-of-lading/paperless-trading-a-guide-to-electronic-bills-of-l/> (Accessed: on 14/11/2025)

⁸ ibid

⁹ Gard P&I, Frequently asked questions: Paperless trading (Electronic bills of lading), <https://gard.no/insights/frequently-asked-questions-paperless-trading-electronic-bills-of-lading/> (Accessed: on 13/11/2025)

- The issue or creation of an electronic document/record with a description of the cargo or its condition known to be incorrect;
- Short delivery where an electronic document/record is issued or created for an amount of cargo greater than that known to have been loaded;
- Discharge at a port or place other than the port or place provided for in the contract of carriage;
- The issue or creation of an ante or post-dated electronic document/record; and
- Delivery of the cargo without production of the negotiable electronic document/record.

Different systems of electronic bills of lading may have varied methods of operating procedures. When using above listed systems, users are required to be signatory to the approved terms and conditions of the particular system. As an example, regarding Bolero, these approved terms and conditions are provided in the “Bolero Rulebook”.

The electronic bills of lading issued by above systems can be converted to paper bills of lading at any time during the carriage and also charter parties could be incorporated to the bills of lading if required. BIMCO has published a clause (BIMCO Electronic bills of lading clause 2014) to be used in charter parties when eBLs are used, and it states:

- At the Charterers’ option, bills of lading, waybills and delivery orders referred to in this Charter Party shall be issued, signed and transmitted in electronic form with the same effect as their paper equivalent.*
- For the purpose of Sub-clause (a) the Owners shall subscribe to and use Electronic (Paperless) Trading Systems as directed by the Charterers, provided such systems are approved by the International Group of P&I Clubs. Any fees incurred in subscribing to or for using such systems shall be for the Charterers’ account.*
- The Charterers agree to hold the Owners harmless in respect of any additional liability arising from the use of the systems referred to in Sub-clause (b), to the extent that such liability does not arise from Owners’ negligence.¹⁰*

Creating an eBL on Bolero¹¹

The eBL is created on the system, uploaded and sent in draft form for approval between shipper and carrier. The eBL can incorporate a charter party or other external terms. Once agreed, the carrier issues the eBL with the click of a button. The eBL is then sent by the system to the next party in the chain (e.g. shipper) with another click of a button. The eBL can also be passed back and forth

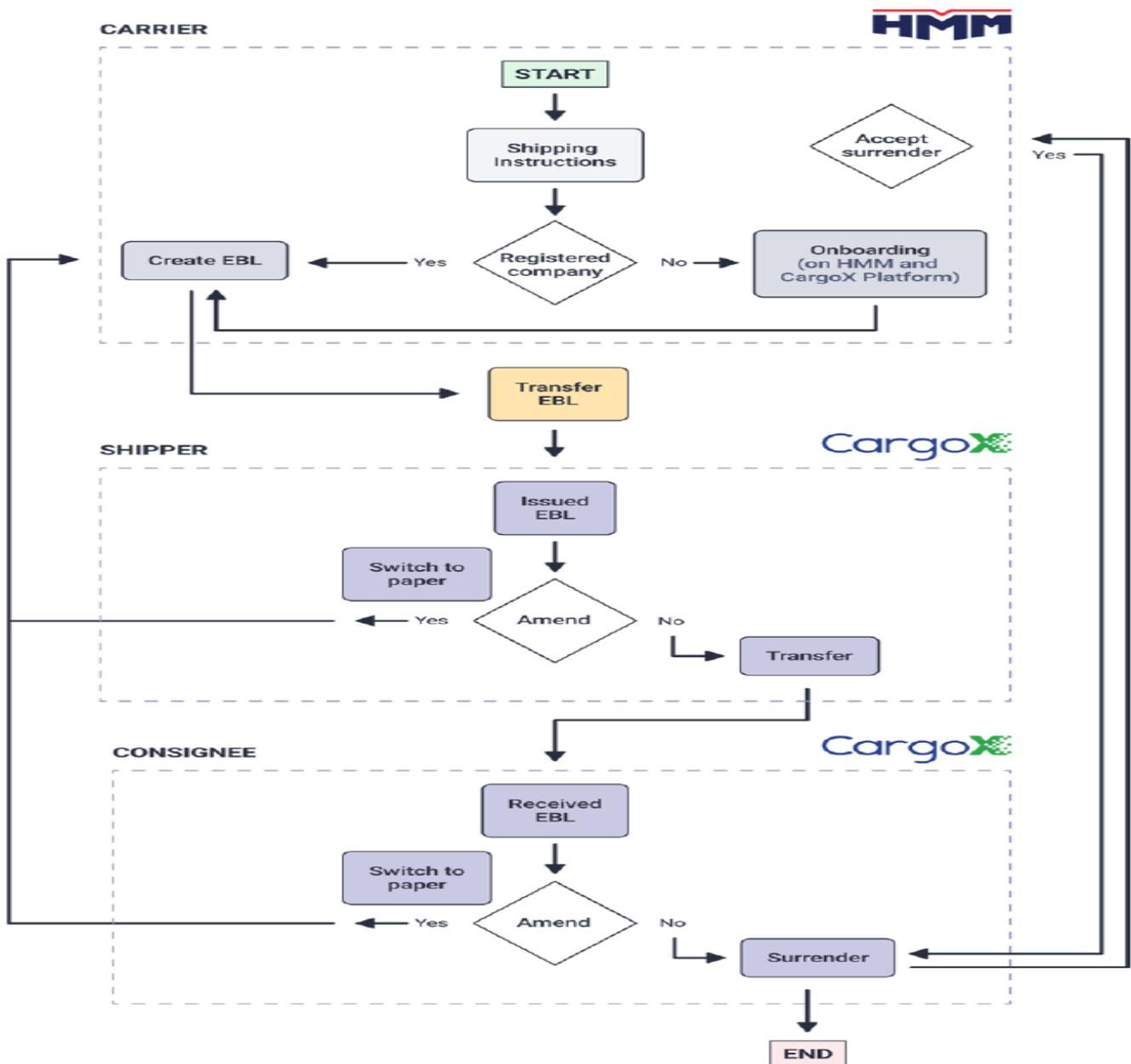
¹⁰ BIMCO Electronic bills of lading clause 2014, <https://www.bimco.org/contractual-affairs/bimco-clauses/current-clauses/electronic-bills-of-lading-clause-2014/> (Accessed: on 13/11/2025)

¹¹ UK P&I, Legal briefing, Electronic Bills of Lading, https://www.ukpandi.com/fileadmin/uploads/ukpandi/Documents/imports/13108/publications/28140-legal_briefing_e_bill_of_lading_web.pdf (Accessed: 13/11/2025)

between holders in this way if, for example, amendments to the document need to be made. Like a paper BL however, there can only be one holder of an eBL at any time.

This system relies on the principle of attornment to enable the new holder of the eBL to obtain title in the goods. Each time the eBL is transferred, the system generates an automatic notice from the carrier to the new holder of the eBL confirming that the goods are now held to the new holder's order.

Creating an eBL with CargoX¹²



¹² HMM – CargoX eBL Integration Manual, https://www.hmm21.com/data_files/ebiz/download/CargoX-manual.pdf (Accessed: 15/11/2025)

Problems and information with regards to bills of lading

a) If the charter party requires only to issue clean bills of lading

Carrier will be liable if a clean bill of lading is issued for damaged goods. Therefore, master can clause a bill of lading if damaged cargo is loaded. But the charterer may require a clean bill of lading for easy trading purposes.

The best option is do not allow to load damaged goods. As this may cause delays holding the shipowner liable make sure to have all communication records, photographic evidence saved to protect the ship owner against any claims from third parties.

Carrier may instruct the master to sign a clean bill for damaged goods if he is indemnified by the shipper. In such cases, such instructions should be received in writing.

b) Clauses a bill of lading

When a bill of lading is to be claused, the master shall ensure to:

- Inform owners & charterers and if required, take assistances from P & I club.
- If the clausing is regarding the 'apparent order and condition' of the cargo, quantify the damage (example, when carrying bags of flour, it is better to write '50 bags wet' than writing 'some bags wet'). The logic is that the holder of the bill of lading shall be able to understand the actual condition of the cargo.
- Clause the bill of lading in accordance with the mate's receipt.
- Use master's own handwriting or typed text.
- The clausing to be made in the face (front or first page) of the bill of lading. If the clausing can be done only on the opposite side of the bill of lading it shall be indicated on the face of the bill of lading by appropriate wording (example 'refer over leaf for master's clausing' or 'see reverse of this bill of lading for master's clausing').
- Delete the conflicting printed statements on the bill of lading to avoid confusions to the holder of the bill of lading. Remember, statements may be;
 - Typed or
 - HandwrittenIt is widely accepted that handwritten statements override typed statements on a bill of lading.
- Attachments to a bill of lading can be made if there is no sufficient space on the bill of lading. The attachments should be in the same form as the original bill of lading. The bill of lading should include proper reference to the attachments and the attachments should have proper reference to bills of lading to avoid possible frauds. All the attachments

shall be signed, dated and stamped 'original'. The date to be the same date as on the bill of lading.

- Attachments may be made on carrier's letter headings if same original forms of bill of lading cannot be found. Finally, ensure all the attachments are securely attached to the bill of lading.

c) Signing a bill of lading on behalf of the master

Sometimes, the owner's agent may have to sign bill of lading on behalf of the master. In that case, the master must issue a letter of authorization (LOA) to the agent giving him rights to sign bills of lading on behalf of the master. Sometimes, the master may have to draft the letter of authorization or the ship owners may have their own formats or agents may have their own formats. Whatever the case, master must ensure the following instructions are available in the letter of authorization:

- The bill of lading shall be;
 - in accordance with the mate's receipt and
 - in accordance with the terms of charter party (if applicable)
- a draft copy the bill of lading shall be sent to owners for their approval before signing it.

G) Letter of indemnity (LOI)

Generally, Letters of Indemnities are used in various occasions in the shipping industry, such as, but not limited to:

- To sign anti dated or post-dated bills of lading
- To sign clean bills for damaged cargo
- To sign clean bills for less amount of cargo loaded
- Switching bills of lading
- Comingling of cargo
- Delivery of cargo other than a port mentioned in the bill of lading
- In the case of early departure procedure (EDP)
- For the purpose of delivering cargo without an original bill of lading

The master shall not accept a LOI for any reason. It shall be communicated with the carrier by the person who issues the LOI. The receiver of the LOI must provide written guidance to the master.

If clean bills are signed knowingly that it contains wrong information against LOI, it will not be a legally binding document. Which means a shipper who indemnifies a carrier against incorrect information on a bill of lading do not have any legal obligation to pay the expenses incurred by the

carrier. The carrier will be liable for the full loss incurred by the cargo owner and no P & I coverage will be provided.

H) Letter of protest (LOP)

This is also called as 'protest' as well. LOP is made to inform the dissatisfaction of any matter over which the receiver (addressee) has the control. The main intention of issuing a LOP is to hold the receiver responsible and liable if any loss or damage is incurred by the sender. Occasions of issuing a LOP includes:

- When there are differences in cargo figures between the show and the ship
- When the loading/discharging rate is too slow or fast
- When there are differences between barge and ship figures during bunkering (this can be issued by the C/E as well)
- When cargo damage has occurred or likely to occur due to rough handling by stevedores
- When the fenders at the berth is not sufficient
- When the line handling people are not following ship's officer's advices
- When vessel's at the berth causes or likely to cause any damage
- When passing vessels causes any damage due to propeller wash or due to interaction
- Any delays by charterers
- Delayed arrival of cargo
- Waiting for pilots or tugs

When issuing a LOP;

- The LOP must be addressed to the person in-charge of the operation concerned.
- An original and one copy should be sent to the addressee. He should be asked to sign the copy and send it back to the issuer.
- The one signed copy (by the addressee) shall be kept in the ship's file and one copy of that shall be sent to the shipowner.
- Make a logbook entry.
- Inform the appropriate parties (owners, charterers etc.)

Refer the latest edition of 'The ship master's business companion' by Malcolm Maclachlan for further information and samples of LOPs for various occasions.

I) Note of protest (NOP)

A 'note of protest' is simply a declaration made by the master of the circumstances beyond his control which may give, or may have given, rise to loss or damage. Such declaration must be made before a notary public, magistrate, a consular officer, or other authority. Usually, statements under oaths will be

taken from the master and other members of the crew and these statements will have to be supported by appropriate log book entries. At the time of noting protest the master should reserve the right to extend the same.

In any of the circumstances enumerated below it is advisable for the master to note protest.

- Whenever during the voyage, the ship has encountered conditions of wind and sea which may result in damage to cargo.
- When from any cause the ship is damaged, or there is reason to fear that damage may be sustained.
- When through stress of weather it has not been practicable to adopt normal precautions in the matter of ventilation of perishable cargo.
- When cargo is shipped in such condition that it is likely to suffer deterioration during the voyage. In this case, however, the protest will not be effective unless the bills of lading were endorsed to show the condition of the cargo at the time of shipment.
- When any serious breach of C/P terms is committed by the charterer or his agent, such as refusal to load, unduly delaying loading, loading improper cargo, refusal to pay demurrage, refusal to accept B/L in the form signed by the master, etc.
- When consignees fail to discharge cargo or take delivery thereof and pay freight in accordance with C/P or B/L terms.
- In all cases of general average.

Protest should be noted as soon as possible, certainly within 24 hours of arrival in port and in the case of cargo protests, before breaking bulk.

If the master delivers the cargo and accepts the freight, he will be barred from claiming the cargo's contribution in general average unless he notes protest within 24 hours and notifies the consignee that he has done so. It is not essential that a protest should be made on a special form but it is advisable and usual in practice”¹³.

In some situations, it is not clear whether damage has occurred or not at the time of original protesting. Sometimes, it may not be clear the extent of the damage as well. It will be necessary to extend the protest in such situations. Some situations may require noting protest at one port and extend it at another port. Therefore, make sure to enter the following wording in the NOP;

“..... notes a protest **reserving the right to extend same**

J) Procedure of maintaining multiple load line certificates

Below mentioned procedures may change upon the regulations of the flag state. Therefore, strongly advised to refer the ship's flag state regulations and ship's SMS.

¹³ F.N. Hopkins, Business & law for the ship master, 7th edition (1998), P. 288

- Both the load lines to be marked on the hull permanently. But, only one load line to be painted and used at any time with the relevant load line certificate.
- All the statutory certificates excluding **the additional international load line certificate** shall indicate the maximum deadweight or displacement corresponding to the vessel's assigned freeboard.
- Stability information for both the statutory load lines to be approved and available on board.
- The change of load line marks to be witnessed by a class surveyor.
- If the load lines to be changed in the loading port, it has to be completed before the commencement of loading.
- The load line certificate which is not in use to be placed in a sealed envelope by the surveyor and to be handed over to the master.
- If the class surveyor is not available, master may carry out the above procedure provided an arrangement for verification is available at the next port of call.
- An administration may allow carrying out the change of load line marks by the master alone (without the presence of a class surveyor) if the vessel is trading in remote ports where class surveyors are not available.
- Each time when the load lines are changed, the master must make an entry in the official logbook to the effect.
- Ship's SMS need to have procedures with regards to changing the load line.
- Reduction of safety standards are not allowed when sailing with lesser deadweight load line marks.
- The annual, renewal surveys will be carried out in compliance with the highest deadweight load line certificate irrespective of the load line certificate in use.
- The main international load line certificate and additional international load line certificates issued also need to be verified during the load line surveys and endorsed.
- May require to inform administration each time the load line marks are changed.

K) Documents required according to the IHR¹⁴

International Health Regulations 2005 (IHR 2005) require having below mentioned documents onboard ships:

- International Certificate of Vaccination or Prophylaxis (vaccination certificate),
- Maritime Declaration of Health (this is required to be completed and sent to port authority on arrival after a foreign travel) and
- Ship Sanitation Control Certificates (SSCC) or Ship Sanitation Control Exemption Certificates (SSCEC)

¹⁴ WHO, International Health Regulations (2005), <https://iris.who.int/server/api/core/bitstreams/1632f577-e897-4da2-8d4b-d0d37751b65c/content> (Accessed: 07/12/2025)

Differences between SSCC and SSCEC are as follows:

Name of the certificate	Occasions issued	Remarks
SSCC	Issued when there is evidence of a public health risk on board and health measures have been satisfactorily completed. The evidences found, and control measures taken are recorded in the SSCC.	Valid for a maximum of six months and the control measures required by the certifying health authority must be completed before a further SSCC is issued.
SSCEC	Issued when there is no evidence of public health risk and the competent authority is satisfied that the vessel is free from infection or contamination, including vectors (mosquitoes and rodents).	Valid for six months, extendable by one month if the inspection for renewal cannot be accomplished at the port of arrival.

Masters are required to ensure that the SSCC or SSCEC is issued by an IHR authorized port and the certificate is not expired.

A list of ports authorised to renew and/or extend these certificates are usually called as IHR authorised ports and this is regularly updated and available for free consultation and can download from the WHO public website or this may be clarified with the local agents as well.

If a valid SSCEC or SSCC is not produced or evidence of a public health risk is found on board a ship, the State Party may;

- disinfect, decontaminate or de-rat the vessel, as appropriate, or cause these measures to be carried out under its supervision; and
- decide the techniques employed in each case to ensure the public health is secured in accordance with the IHR or other safe means

Preparing a vessel for Ship Sanitation Certificate¹⁵

Instruct the galley department to ensure that the;

- galley area is well cleaned.
- galley cleaning schedule is available.
- waste containers in the galley, mess rooms & garbage storage areas are well maintained and kept closed.
- dry provision rooms and the cold rooms are cleaned and well maintained.
- food is stowed in the provision rooms properly to avoid contamination.

¹⁵ WHO, Handbook for Inspection of Ships and Issuance of Ship Sanitation Certificates, International Health Regulations (2005), <https://iris.who.int/server/api/core/bitstreams/68cdb887-5ab9-4cce-aaff-5123c23b150c/content> (Accessed: 07/12/2025)

- if there are any toilets that can be directly entered from galley or mess rooms, doors to the toilets shall have auto closing devices to avoid contamination and the doors to be kept close.
- lighting systems in the galley and mess rooms are in good condition.
- food preparation surfaces are smooth without cracks to avoid growth of vectors.
- utensils and cutting boards for preparation of raw and ready-to-eat foods are separated.

Instruct the person who is in-charge of the ship's hospital to;

- ensure the hospital is well cleaned.
- make sure the lighting systems are in order in the hospital.
- make sure sufficient medical facilities are available and the expired items are replaced.
- store and maintained medicines and equipment in correct order.
- update and maintain the medical log.
- ensure a medical guide is available in accordance with the flag state requirements.
- ensure the expired medicines are stowed separately.
- make sure that the food handlers with gastrointestinal illness must not perform any food-related work until symptom free for a minimum of 48 hours. Medical log to be maintained as evidence.

Instruct the chief officer to make sure;

- garbage is properly segregated, and the storage areas are cleaned.
- garbage management plan is available and complied with.
- the garbage record book is updated.
- the posted garbage placards are in good condition.
- proper heating systems are available and working in order if the vessel is in cold climates.
- the evidences of freshwater analysis are available. In accordance with the MLC 2006, water samples to be taken at regular intervals and analysed for biological, mineral and corrosion indicators and Physicochemical Analysis. Refer the flag states regulations for the applicable interval.
- the freshwater tanks and receiving hoses are well maintained and evidences available.
- cargo holds, deck areas and accommodation to be free of rats, insects and well cleaned.
- vessel's ballast water is managed in accordance with the vessel's ballast water management plan and the updated ballast water record book is available.

Instruct the chief engineer to make sure;

- the sewage treatment and discharge requirements are complied with.
- ventilation system is in good working order to have proper air circulation.
- the engine room areas are in clean condition.

Finally, the master must make sure that the records of accommodation, galley, provision room and cold room inspections are readily available.

L) Certificate of Compliance

Ship's certificates can be issued by flag states or recognized organizations (RO) of the flag state. Most of the flag states have delegated this duty to ROs.

When issuing a certificate by a RO, if the relevant Convention or the Code has been ratified by the flag state, that particular certificate will be issued by the RO but under the authority of the flag. Refer the below abstract from a certificate;



If the flag state is not a party to the relevant Convention or the Code, then the certificate cannot be issued under the authority of the flag state as they do not have any authority since they have not ratified it.

Therefore, the RO can issue a certificate of compliance which states the certificate is issued in compliance of the relevant convention or the code.

M) Electronic certificates for ships

IMO accepts that the electronic certificates issued to a vessel are equivalent to paper certificates. Therefore, all the paper certificates that are required to be carried onboard in accordance with IMO Conventions and Codes can be replaced by electronic certificates, provided, the flag state accepts it.

Administrations should ensure that the electronic certificates have the following features¹⁶:

- validity and consistency with the format and content required by the relevant international convention or instrument, as applicable;
- protected from edits, modifications or revisions other than those authorized by the issuer or the Administration;
- a unique tracking number for verification (**Unique tracking number** means a string of numbers, letters or symbols used as an identifier to distinguish an electronic certificate issued

¹⁶ Refer IMO, FAL.5/Circ.39/Rev.2, or the latest for further details

by an Administration or its representative from any other electronic certificate issued by the same Administration or its representative);

- a printable and visible symbol that confirms the source issuance.

With regards to the Sri Lankan flagged vessels, owners who wish to be issued with electronic certificates should approach the RO to enquire if they are ready to issue the electronic certificates. Upon confirmation by the RO, a letter on the use of electronic certificates will be issued by the Merchant Shipping Secretariat to the ship, stating approval for the ship to be issued with electronic certificates in-lieu of traditional paper certificates. This approval letter is to be placed on board the ship as an additional measure to facilitate acceptance by other port authorities¹⁷.

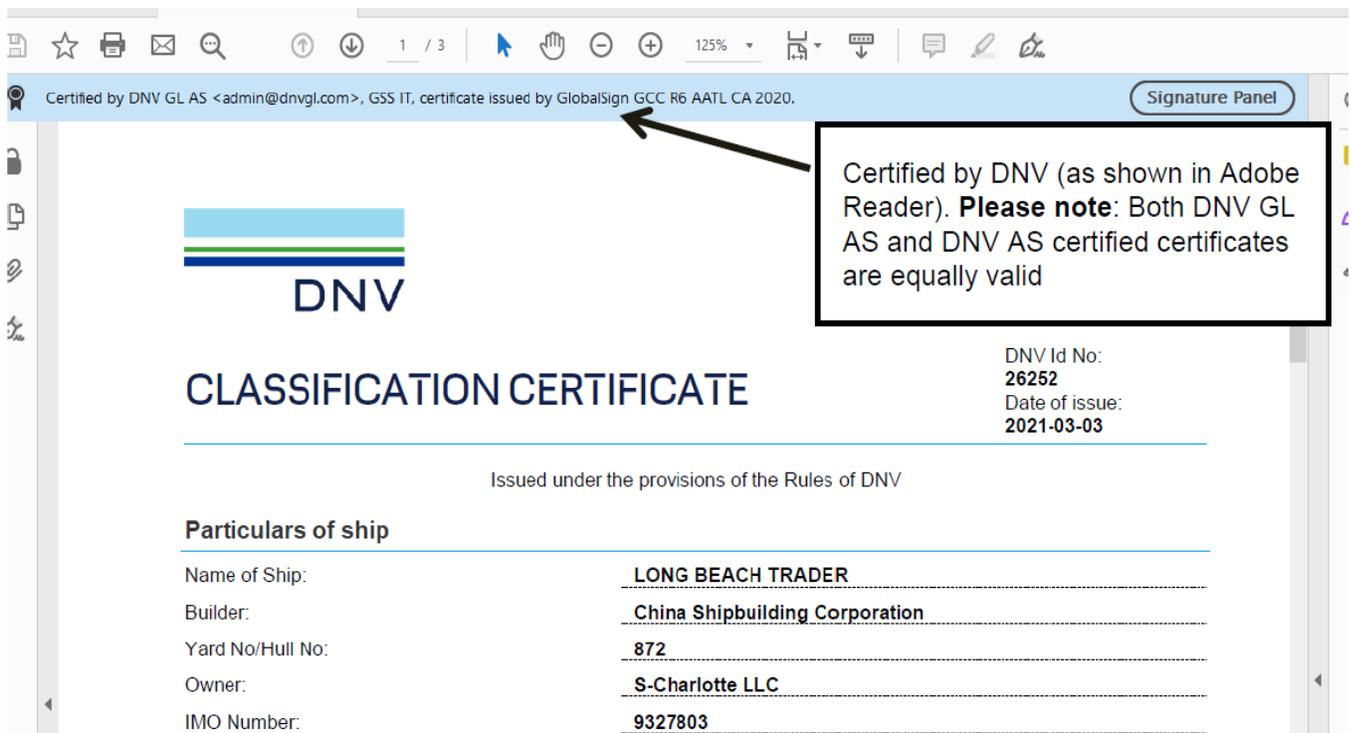
Refer the below abstracts from the ‘User guide for IMO compliant electronic certificates from DNV’ to gain a better idea about how it functions¹⁸.

- It is recommended that electronic copies of the latest certificates are stored on board the vessel
- Flag acceptance is a pre-requisite for issuance of electronic certificates by DNV on their behalf. If DNV has not been granted respective Flag acceptance, the electronic certificate shall be printed and manually signed in addition.
- In case of loss of connectivity, the authenticity and validity of the document can be confirmed by contacting DATE@DNV.com
- If required, certificates can be shared as well.

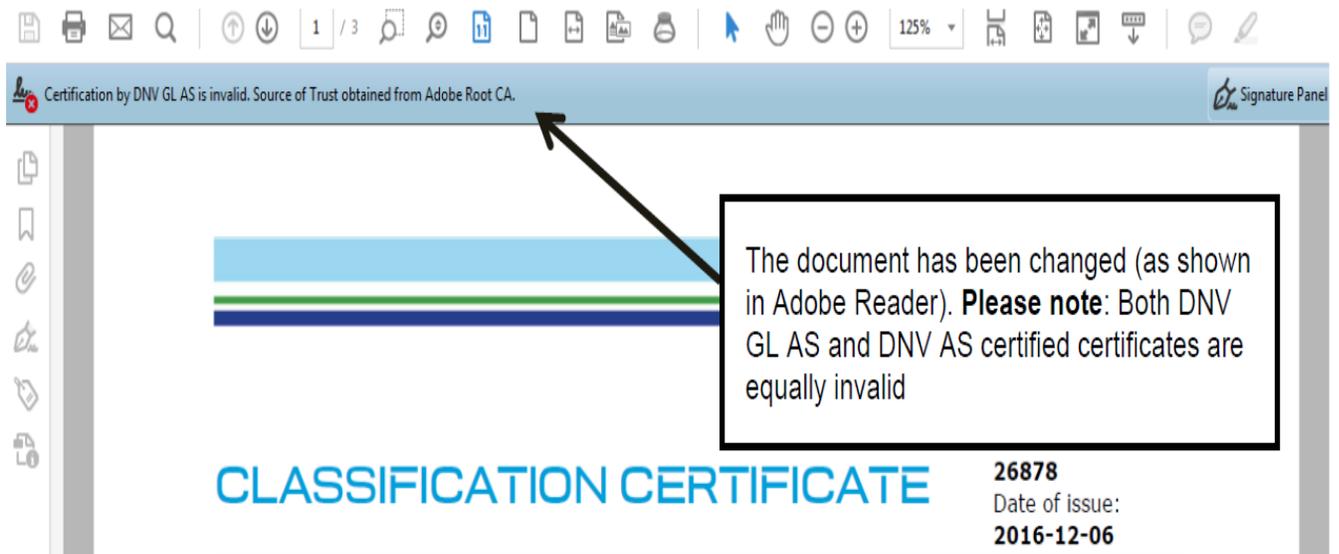
Example if the document is electronically signed and contents are not changed:

¹⁷ Merchant Shipping Secretariat, Sri Lanka, MSN 01/2018

¹⁸ DNV, User guide for IMO compliant electronic certificates from DNV, [DNV User Guide Electronic Certificates.pdf](#) (Accessed: on 15/11/2025)



Example if the document has been tampered with:



The documents carry an electronic seal and a unique tracking number (UTN) for the purpose of checking the validity and authenticity. Example of the Electronic Seal including the Unique Tracking Number:



for DNV

This document is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication can be obtained from trust.dnv.com by using the Unique Tracking Number (UTN): n1567777-ira and ID: 26252

Swee Yin Wong
Surveyor

The Unique Tracking Number (UTN) can also be found at the bottom of the first page.



Form code: CSHIP

UTN: n1567777-ira

Unique tracking number

www.dnv.com

Page 1 of 3

The validity of the documents can be checked through an authentication service by accessing <https://trust.dnv.com> and entering the UTN and the ship's DNV ID. For certificates the validation will show whether it is currently valid, while for other documents it will show the validity at the date of issuance.

Online verification can be done at <https://trust.dnv.com>. The below screen shot shows a confirmation of the validity of a certificate. Note that only certificates can be downloaded.

Document Verification

Please fill out the form below to Verify a Document

Vessel Company Engine

Vessel / Company Id

Unique Tracking Number (UTN) / Temporary Access Code

I'm not a robot 

 **Valid**

The document specified below is Valid.

UTN:	n1567777-ira
Vessel:	26252
Title:	Classification Certificate
Issue Date:	2021-03-03
Last Periodical Endorsement:	2021-03-03

The Download includes all added endorsements. For more information about electronically signed documents originating from DNV, please click here.

MASTER – PILOT RELATIONSHIP

British regulations define “pilot” as a person who does not belong to a ship but who has the conduct of it and in terms of maritime law, pilot is a ship owner’s employee. A pilot’s presence on the bridge does not relieve the master or officer in charge of the navigational watch from their duties and obligations. They are supposed to support the pilot, monitor the pilot’s actions and monitor the vessel’s progress throughout.

Before the pilotage commences the master, pilot and watchkeeping officers shall be aware of their respective roles during bridge watchkeeping and shall have a good communication with regard to the vessel’s safe navigation.

Preparations for pilotage

Master shall ensure:

- the bridge team is well rested, having good physical and mental fitness and are not under influence of drug or alcohol.
- the bridge team is aware of the provisional passage plan developed, based on the preliminary information before the pilot’s arrival.
- the pilot boarding arrangements are ready, and communication established with a responsible person at the pilot ladder.
- to establish communications with the pilot and agree with the boarding times, positions, approach speed/course.
- to monitor the boarding operation closely from the bridge wing.
- following are reported to the bridge:
 - Pilot boat approaching
 - Pilot board alongside
 - Pilot onboard
 - Pilot boat away
 - Pilot boat clear
- Once the pilot is onboard, hoist flag Hotel.

Information exchange

This exchange of information should include at least¹⁹:

- presentation of a completed standard Pilot Card. In addition, information should be provided on rate of turn at different speeds, turning circles, stopping distances and, if available, other appropriate data;

¹⁹ Refer IMO Resolution A.960(23) or the latest for further details

- general agreement on plans and procedures, including contingency plans, for the anticipated passage;
- discussion of any special conditions such as weather, depth of water, tidal currents and marine traffic that may be expected during the passage;
- discussion of any unusual ship-handling characteristics, machinery difficulties, navigational equipment problems or crew limitations that could affect the operation, handling or safe manoeuvring of the ship;
- information on berthing arrangements; use, characteristics and number of tugs; mooring boats and other external facilities;
- information on mooring arrangements; and
- confirmation of the language to be used on the bridge and with external parties.

Passage and contingency plans

After taking above information into account and comparing the pilot's suggested plan with that initially developed on board, the master shall carryout a risk assessment. Finally, the master and the pilot should agree an overall final plan early in the passage before the ship is committed. **The Master must not commit his ship to a passage he has not approved.**

Contingency plans should also be made which should be followed in the event of a malfunction or a shipboard emergency, identifying the possible abort points and safe anchoring areas. These should be discussed and agreed between Pilot and Master.

Briefing of crew

On completion of the Pilot briefing, the Master takes the first opportunity to let all involved personnel know the final plan and major decisions made with the Pilot, which includes:

- Conning procedure;
- When additional manning is required;
- When the manoeuvring stations will be called;
- The changes made to the provisional passage and manoeuvring plan etc.

This may take place on the bridge or on VHF if manoeuvring stations are already manned.

The voyage plan is to be amended; accordingly, any inconsistency is to be reported to the Master immediately.

During pilotage

- The Master/OOW/ Bridge team shall interact with the pilot, providing confirmation of his directions and feedback when they have been complied with. It is the responsibility of the OOW to ensure efficient communication is maintained with the Pilot.
- In addition to the actions of the Master and the Pilot, the OOW shall monitor at all times the ship's speed and position as well as dynamic factors affecting the ship (e.g. weather conditions, manoeuvring responses and density of traffic) and report to the Master/Pilot.
- The Master and the Pilot being most of the time focused on the ship handling, it is the OOW and the whole bridge team's responsibility to check all other aspects of the ship safety and security. (e.g. Opposite ship side when the Master is on the other wing, long range traffic, communications etc.)
- OOW shall monitor the ship's position continuously, alerting the Pilot and the Master to any perceived inconsistencies.

Pilotage in Panama Canal

Among other things, Article 92 of the Panama Canal regulations states that the pilot assigned to a vessel shall have control of the navigation and movement of such a vessel. Masters should be made aware, therefore, that Panama Canal pilots onboard vessels are in control of the navigation and are not in an advisory capacity. This control does not cease while a pilot in training is executing manoeuvres under the supervision of the qualified pilot²⁰.

This situation limits the Master in his course of actions. In case of an incident/accident, the following actions should be carried out:

- Pilot must be immediately informed and if safe to do, operations shall be ceased, so as to make a full appraisal of the situation.
- All evidences and facts to be recorded.
- A note of protest to be made in the event of damages found, or if damages are suspected but not clear upon first inspection.

Pilotage in Suez Canal

Article 11, D of Suez regulations state that²¹:

²⁰ Panama Canal Advisory to Shipping No. A-22-2013, <https://pancanal.com/wp-content/uploads/2013/08/a-22-2013.pdf> (Accessed: on 16/11/2025)

²¹ Rules of navigation, Suez Canal Authority, <https://www.suezcanal.gov.eg/FlipPDFDocuments/Rules%20of%20Navigation.pdf> (Accessed: on 16/11/2025)

- When a vessel is transiting the Canal, the Master or his qualified representative should be present at all times on the bridge where they are responsible for the control and management of the vessel. The Master or his qualified representative, has to keep the pilot informed of any individual peculiarities in the handling of the vessel so that the pilot might be in a position to give better advice to control the navigation and movement of the vessel.
- The duties of pilots commence and cease at the entrance buoys of Port Said and Port of Suez. He only gives advice on manoeuvring the vessel, course to steer, etc. He puts at the disposal of the Master his experience and practical knowledge of the Canal, but as he cannot know the defects or difficulties of manoeuvrability for every vessel, the responsibility falls completely upon the Master

Therefore, same as in most of the other areas of world, in Suez Canal also, if any damages occur due to the fault of the pilot, the vessel owner will be liable and responsible.

Responsibilities of a port authority with regards to pilots

Port authorities must ensure the pilots are:

- properly qualified;
- have appropriate competencies;
- medically fit;
- not under the influence of drugs or alcohol or medication which affect pilot's ability for safe navigation; and
- fit for the duties to be carried out by them

Ship owners are relying on the port authorities when taking the services of pilots. Therefore, even though the port authorities usually do not take the liability or responsibility of the faulty acts of the pilots according to the regulations, the shipowners may be able to claim the losses incurred due to the navigational errors of the pilots provided that the shipowner can prove the losses incurred due to one or more of the causes mentioned above. Therefore, masters are required to have correct records and evidence of all the events after any incident involving pilots. Remember, this may be possible in the areas where the pilotage is compulsory. If the ship owner has taken the services of voluntary pilotage, then the ship owner is always responsible and liable for the losses incurred by the faults of pilots.

Refusal for pilotage

IMO resolution A.960(23) states that the pilot should have the right to refuse pilotage when the ship to be piloted poses a danger to the safety of navigation or to the environment.

ACTIONS TO TAKE WHEN NON-COMPLIANCE WITH VARIOUS REGULATIONS

A) Having high Sulphur fuel when entering ECA

In accordance with the MARPOL Annex VI, ships are required to change over to low sulphur fuel oil when entering ECA. This may not be possible when the sulphur content is higher, in the bunkers received even though the master has ordered low sulphur fuel oil or when low sulphur fuel oil is not available or if the vessel was not having such fuel when at the time of receiving orders to proceed to ports in ECA.

Remember, you are not required to deviate for obtaining low sulphur fuel or it shall not make any undue delays to the operation of the vessel and you may take following actions:

- Inform the owners and charterers (time and bare boat charterers).
- Inform the Flag state.
- Inform the port of destination.
- Keep ready all the available documents to prove that you have taken all possible actions to take low sulphur fuel oil.
- Keep ready the expected port rotation sequence plan at the intended time of entry into the ECA.
- The date and time of the port rotation sequence plan received which includes the ports in ECA and the position of the vessel at that time.
- The date and time the vessel expects to enter and exit the ECA.
- Plans available at the first port within ECA to take bunkers with low sulphur fuel.
- If available, evidence of using low sulphur fuel when in ECA in former voyages.

B) Exemption and dispensation certificate

Exemption certificate (excluding the Ship Sanitation Control Exemption Certificate issued under International Health Regulations)

An Exemption is a permanent release from compliance with a Statutory requirement due to the existence of specific circumstances as sanctioned by the provisions of the applicable Convention. The 'Exemption Certificate' is linked to, and retained with its associated statutory certificate, and is issued by the Recognized Organization (OR) issuing that certificate under authorization from the DGMS. Authorization for issuance of an Exemption Certificate is considered on a case by case basis formed on the existence of some measure of equivalency to meet the intent of the requirement being exempted and a recommendation from the (RO)²².

Exemption may be granted in accordance with SOLAS and load line conventions.

²² Merchant Shipping Secretariat, Sri Lanka, MSN 27/2016

In most occasions, the validity period of an exemption certificate would be similar to the validity period of the corresponding normal certificate.

Example –

- International Load Line Exemption Certificate will be issued if a coasting vessel needs to undertake a single international voyage in an exceptional circumstance. Remember, in this case, the duration of the certificate will be only to complete the single voyage only.

No exemption certificates are issued under MARPOL, MLC 2006, Ballast water management Convention, ISPS Code and ISM Code. Remember, there could be exemptions granted under MLC 2006 and the Ballast water management Convention, but, no separate ‘exemption certificates’ required.

Dispensation Letter (dispensation certificate)

A temporary allowance granted in writing (Dispensation Letter) by the DGMS to permit a ship to proceed without being in full compliance with a specific Convention requirement due to mitigating circumstances preventing the immediate rectification of the subject deficiency. Dispensations are issued with time specific corrective action requirements, compliance with which are reportable to the Administration by the expiration date²³.

Dispensation Letters are issued with a specific term limit of validity-either for a single voyage, or for a set period of time, and are generally limited to the minimum period of time necessary for the ship to reach a port where rectification of the deficiency can be accomplished²⁴.

Examples –

- Dispensations for 2nd mate when chief officer is not available as required by the minimum safe manning certificate.
- When one ECDIS is out of order and if it cannot be repaired at the present port, a dispensation will be issued, until the next port where the ECDIS can be repaired provided the back-up ECDIS is working in order.

²³ Merchant Shipping Secretariat, Sri Lanka, MSN 27/2016

²⁴ *ibid*

Occasions of issuing dispensations for seafarers

Occasion issued	Applicable Convention	Duration of validity	Application in Sri Lanka
Lack of DSD certified people to carryout security related duties in accordance with SSP	STCW	30 days	Yes
No certified persons to carryout duties of SSO	STCW	30 days	No
Lack of an officer or an engineer in accordance with the minimum safe manning	STCW	06 months	Yes
No master or chief engineer, but only in circumstances of force majeure	STCW	Shortest period	Yes
No certified cook	MLC 2006	30 days	Yes

C) Actions to be taken when critical navigational equipment failures occur before departure

In case of a critical bridge equipment failure at a berth, the master must take best possible actions to get it rectified before departure from the port. If there are no facilities available to rectify the matter and depending upon the circumstances an Administration may allow the vessel to sail. Therefore, you are required to refer the flag state regulations. Refer the below stated Hong Kong regulations to gain a better knowledge of this.

As long as the ship's structure is damaged or an essential equipment is inoperative, the ship manager or the ship master should identify the cause and arrange alternative measures to make up the failure. If such deficiency cannot be made good in a short period and exemption/dispensation is required, the ship manager should seek the Classification Society's advice, and apply to Cargo Ships Safety Section, fax: (+852) 2545 0556 or email "exemption@mardep.gov.hk", together with relevant document, Classification Society's recommendations/advice, evidence and action plan. If necessary, a survey by the Classification Society is to be carried out and the recommendations are to be complied with. "Application for Dispensation" is required to be submitted (<https://www.mardep.gov.hk/en/forms/pdf/md606.pdf>). The CSS Section will consider the application on a case by case basis, depending on the seriousness, ship's condition, temporary measures taken, time span of repair, remedy actions etc²⁵.

²⁵ Marine Department, Hong Kong, Frequently Asked Questions (FAQ) Cargo Ships Safety Section, <https://www.mardep.gov.hk/filemanager/en/share/faq/pdf/faq.pdf> (Accessed: 16/11/2025)

ACTIONS TO TAKE DURING VARIOUS EMERGENCIES & SITUATIONS

A) Injury onboard while on passage (not a minor injury)

- MLC 2006 requires a prearranged system that medical advice by radio or satellite communication to ships at sea, including specialist advice, is available 24 hours a day²⁶.
- IMO requires shore-based authorities to have telemedical assistance service (TMAS). TMAS could be private or public. Public is free of charge whereas Private TMAS facilities may charge for their services but may be cheaper than diverting a ship. Although the ship may call the TMAS directly, RCCs are often the first contact for a captain faced with a medical emergency. They need immediate medical advice and a recommendation for action (which may simply be treatment on board): the TMAS doctor has full authority to recommend evacuation on medical grounds²⁷. TMAS contact details can be found on ALRS volume I.
- If radio medical advice is required, keep ready the information as mentioned on the 'The Ship Captain's Medical Guide' that need to pass to TMAS. It may be useful to have photographs.
- If the death is confirmed, not required to deviate. Can take radio medical advice and refer the 'The Ship Captain's Medical Guide' to confirm the death.
- If required to deviate to disembark the injured seafarer, inform owners, charterers and P & I.
- Continue first aid and keep a record of treatments provided onboard.
- In consultation with the local authorities & RCC, request for a paramedic rescue helicopter or boat.
- Send the ETA to the port that the vessel is deviated.
- Comply with flag state reporting requirements. In accordance with the Sri Lankan regulations, the master or the owner or the local agents need to inform the DGMS in case of a loss of life within 24 hrs of the incident.
- Prepare documents & personal belongings of the injured person to sign off.
- Inform the next of kin of the injured person.
- Inform the owners and the manning agents about the necessity of a reliever.
- If the minimum safe manning document is affected, inform the flag state (apply for a dispensation certificate), also take actions to arrange watch schedules.
- Send the amended ETA to the port of destination, if any amendments are required.
- Need to carry out an investigation into the incident and depending upon the SMS and the flag state regulations, inform the company and the flag state.
- Keep records of the following with regards to injury:
 - Time, date, place onboard and position of the vessel;
 - Weather condition if required;
 - Photographic evidences;
 - Statements of facts from witnesses;
 - Hourly or as necessary the recorded condition of the injured person;
 - Investigation report.

²⁶ MLC 2006, Standard A4.1 – Medical care on board ship and ashore

²⁷ Refer IMO MSC/Circ.960 or the latest for further details

B) Missing persons while on the passage

- Carry out an onboard search.
- Check the time and the position onboard where he was last seen.
- Check the missing person's cabin to identify any causes for disappearance.
- Inform owners, cargo owners, charterers and P & I club.
- Transmit distress message with relevant details.
- Turn the vessel back and proceed to the position where the missing person was last seen and carry out a search. Need to consider the below points when planning to turn back:
 - Temperature of the sea water (probable hypothermia).
 - Course at the time of the incident.
 - Changes in courses since the last time the man who disappeared was seen.
 - Force and direction of wind and currents.
 - Speed at the time of the incident.
 - Expected ships in vicinity: ships on same course, passing ships etc.
 - Navigation within a Traffic Separation Scheme
- The owners, charterers, P & I club and other involved parties to be informed after the completion of the operation with the results.
- After resuming the passage amended ETA to the port of destination.
- Carry out an investigation, collect statements of facts with regards to the behaviour of the missing person at the time of last seen.
- Make a sea protest.
- If the person could not be found or found dead (floating on water);
 - If found floating, recover him from water and confirm the death. Take actions to preserve the body.
 - Comply with the flag state reporting.
 - Take necessary actions to repatriate the body (if found) with the belongings and the final wages.
 - Inform the next of kin.
 - If the minimum safe manning document is affected, inform the flag state, also take actions to arrange watch schedules and fill the vacancy onboard as soon as possible.

C) If the vessel is deserted by a crew member

To avoid deserting the vessel, master shall ensure to keep CDCs, COCs, Passports and other documents of the seafarers which are at the master's custody in a safe place with him. If a seafarer has deserted the vessel:

- Check whether the passport, CDC, COC & other documents which were at the master's custody are missing.
- Check the cabin and look for signs of valuable missing items.
- If above mentioned docs, certificates and belongings are missing and not returned to the vessel during the shore leave period a master may conclude that the seafarer has deserted the vessel. This may be confirmed with the statements from the fellow crew members.
- Inform the owners, P & I club, local agent and the relevant local authorities.
- Comply with the local regulations. The local immigration may fine the vessel or may require a letter of guarantee.
- Inform the next of kin.
- Prepare the final wages with the instructions from the owners and take necessary actions to air freight the personal belongings.
- If the minimum safe manning document is affected, inform the flag state (obtain dispensation certificate), also take actions to arrange watch schedules and fill the vacancy onboard as soon as possible.

If the documents, certificates and personal belongings of the seafarer concerned are not missing, probably the seafarer has not deserted the vessel, but could not come back before shore leave expires. In that case, inform the local agent, ship owner and take necessary actions to re-join him at the next port at the seafarer's cost. If the minimum safe manning document is affected, inform the flag state, also take actions to arrange watch schedules.

D) If stowaways are found while at sea²⁸

- Carryout a full search onboard to check the total number of the stowaways onboard.
- Collect all the identification documents if available. If the identification documents are available, the repatriation would be easy.
- Take fingerprints of both hands and photographs.
- Collect all the information with regards to them such as port of embarking, names, photographs, addresses at the port of embarking, name/address of next of kin, medical condition etc.
- Check the personal belongings of them and check the places that they have been staying and visiting onboard the vessel to identify whether they have kept any illegal items. If smuggling of drugs or other illegal material is suspected, inform all the parties concerned immediately including the authorities at the port of arrival.
- Report to owners, charterers and P & I club.
- If the boarding country is still close to the vessel (example - if the stowaway is found within 24 hrs after departure), with the owners / charter's consultation proceed back to the port of boarding to disembark the person. This would be the easiest method to disembark stowaways.

²⁸ Refer Resolution FAL. 13(42) of IMO or the latest

- If the vessel is engaged in a liner trade, stowaway may be discharged at next call to the port of embarkation.
- Arrange a cabin for him to stay until he is repatriated. Ensure no materials available inside the cabin which he may harm himself. It is advisable to keep the cabin locked. Remember not to violate his human rights. Keep a life jacket standing by outside the cabin and provide instructions about wearing life jacket. Provide instructions with regards to fire fighting and abandoning ship duties.
- Do not include his name in the crew list but, need to include in the muster list.
- Provide him with sufficient water, meals etc.
- Make sure he cannot run away, or he can not harm himself while onboard.
- Need to inform all the ports of arrivals about the presence of a stowaway onboard.
- Depending upon the charter party (if the vessel is chartered) expenses incurred with regards to the stowaway may have to be borne by the charterer or the ship owner. Therefore, keep a record of all the expenses incurred.
- Check the purpose of the running away from their own country (refugees, asylum seeker – refer below) and take appropriate actions.

E) If refugees are rescued or found onboard

- Inform the owners, P & I club and charterers.
- Inform the agent at the port of arrival and ask him to inform port authority, UNHCR (United Nations High Commissioner for Refugees), Embassy of the flag state and Immigration.
- Take full details of the persons such as number of children, number of males, number of females, their medical condition, names, nationality, collect the identity documents that they have, reasons for refuge etc.
- If they were recovered from a vessel in distress, record the name of the vessel, call sign, IMO number, port of registry, name of the master, name of the owners, address of the owners, last port & next port etc. refer IAMSAR Volume III for further details.
- If the own vessel's lifeboat capacity is going to be exceeded, need to inform the flag State. A master cannot put his own ship in danger by taking distress people if it exceeds the lifeboat capacity. In the past there were occasions where masters had taken refugees even though their own lifeboat capacities are exceeded provided their action can be justified (example – shore assistance is available close by).
- Keep a full record of the expenses incurred because the ship owner can recover following expenses from UNHCR;
 - Expenses incurred during rescue operations
 - Fuel expenses
 - Communication expenses
 - Loss of hire due to deviation
 - Daily expenses such as for food and water

- Additional port/agency charges if incurred
- Ensure the vessel has sufficient food, water and medical facilities for crew as well as refugees. Some countries may not accept refugees. Therefore, you are required to keep an idea about the daily consumptions and have sufficient reserves onboard.

F) If asylum seekers are rescued or found onboard

- Take full details of the persons such as medical condition, names, nationality, collect the identity documents that they have, reasons for seeking asylum etc.
- Inform owners, charterers and P & I club.
- Inform the agent at the port of arrival and ask him to inform port authority, UNHCR, Embassy of the flag state and Immigration.
- Do not ask for disembarkation in the country of origin or from which the individual has fled.
- Do not share personal information regarding the asylum-seekers with the authorities of that country, or with others who might convey this information to those authorities.
- Same as in the case of refugees, the expenses incurred due to above mentioned reasons can be recovered, therefore, keep records of expenses incurred.
- If the lifeboat capacity is going to exceed, refer what is explained with regards to rescue of refugees above.

G) In case of a collision

- Stop the engines.
- Save data in the VDR.
- Refer the vessel's emergency manual.
- Immediately check the condition of the people onboard, vessel and cargo.
- Refer the damage control plan and see whether further flooding can be controlled or stopped.
- Refer the damage stability book and check the condition of the vessel.
- If external oil pollution exists, take REASONABLE preventive measures and control measures. But the priority shall be given to the points noted above. Because MARPOL regulations does not apply in case of pollutions occurred due to accidents provided reasonable precautions were taken. Comply with SOPEP reporting requirements.
- Check whether assistance is required from the other vessel & act accordingly.
- In accordance with the Act 52 of 1971²⁹, after a collision between two vessels, without endangering his/her own ship or crew or passengers, each master is required to:
 - give assistance to the other vessel, her crew and passengers;

²⁹ Regulation 202, paragraph (1), Act number 52, 1972, Sri Lanka

- stand by, by the other vessel till such assistance is not required;
- exchange the following information:
 - names of the vessels;
 - ports of registries;
 - names of the last departed ports; and
 - names of the next ports.
- Inform the owners and P & I club with the following details:
 - Name of the vessel.
 - Date, time and the position of the incident.
 - Extent of the damage to cargo, vessel, people onboard & marine environment.
- Consider the necessity of calling for salvage or diverting for a port of refuge.
- Consider of sending a distress message. If the own vessel is in danger, the other vessel may rescue the people on the own vessel provided she is safe.
- Inform the coastal state and flag state.
- If there is a possibility of sinking, do not hesitate to abandon the vessel as the utmost priority is to be given to lives onboard.
- A vessel may be beached to avoid sinking provided the weather condition is good and the sea bottom is not rocky (This is especially important for laden tankers. If the tanker is laden, the pollution will be extensive if beached in bad weather. Same thing may happen if a laden tanker is beached on rocks even with good weather). Remember, if there is a pollution threat, local authorities may not allow to beach. They may request to take the vessel into high seas.
- Accordingly, keep the charterers and the agents at the port of arrival updated.
- If the time permits, carryout a breadth alcohol test of the OOW and the lookout at the time of the collision.
- Carryout an investigation into the collision and record the statements of facts.
- Do not erase the records on charts which lead into the collision.
- Ensure the below records are preserved for further investigations:
 - Deck logbook
 - Engine logbook
 - Bell book
 - Printouts of the engine movement recorder
 - Course recorder
- If the course recorder does not indicate the date and time, mark the position, date and the time of the collision on it.
- Never accept liability.
- Master's full cooperation is required for the investigations carried out by:
 - Vessel's flag State;
 - Vessel's class surveyors;

- Lawyers on behalf of the owners; and
- P & I agent.

H) In case of grounding

- Stop engines immediately.
- Save the data in the VDR.
- Refer the ship's emergency procedures manual.
- Carryout a damage assessment of the people onboard, vessel and cargo.
- Refer the damage control plan and see whether further flooding can be controlled or stopped.
- Refer the damage stability book and check the condition of the vessel.
- If external oil pollution exists, take REASONABLE preventive measures and control measures. But the priority shall be given to the points noted above. Because MARPOL regulations does not apply in case of pollutions occurred due to accidents provided reasonable precautions are taken. Comply with SOPEP reporting requirements.
- Check the viability of re-floating by using engines or by trimming or by listing or by ballasting provided no hull damage.
- Consider of abandoning or calling for salvage depending upon the situation.
- Consider the necessity of sending a distress message.
- Inform the owners and P & I club.
- Inform the flag State and coastal State.
- Accordingly keep the charterers and the agents at the port of arrival updated.
- If possible, carryout a breadth alcohol test of the watchkeepers at the time of the grounding.
- Carryout an investigation into the grounding and record the statements of facts.
- Do not erase the records on charts which lead into the grounding.
- Ensure the below records are preserved for further investigations:
 - Deck logbook;
 - Engine logbook;
 - Bell book;
 - Printouts of the engine movement recorder;
 - Course recorder; and
 - Records of echo sounder.
- If the course recorder does not indicate the date and time, mark the position of the grounding on it.
- If the echo sounder does not indicate the date and time, mark the position of the grounding on it.
- Never accept any liabilities.
- Master's full cooperation is required for the investigations carried out by:
 - Vessel's flag state;

- Vessel's class surveyors;
- Lawyers on behalf of the owners; and
- P & I agent

I) In case of a pollution

- Try to contain the pollution onboard. If it is already overboard, try to contain it in a limited area.
- Immediately deploy SOPEP or SMPEP.
- If pollution is extended to overboard;
 - Report to local authorities:
 - In US waters – take actions in accordance with the Vessel Response Plan (VRP) and inform “qualified individual”
 - In Chinese waters – inform Ship Pollution Response Organization (SPRO)
 - Inform owners, P& I club and flag state.
 - If possible, try to quantify the amount of the pollution
- Take fire precautions.
- Put the air condition on recirculation mode to avoid ingress of flammable gasses into the accommodation.
- Keep a record of all the actions and events.
- Carryout an investigation and record statements of facts.
- Never accept liability.
- Master's full cooperation is required for the investigations carried out by:
 - Vessel's flag state;
 - Lawyers on behalf of the owners; and
 - P & I agent.

NOTE with regards to oil pollution

MARPOL Annex I may not be applicable if the oil pollution is caused:

- for the purpose of securing the safety of a ship or saving life at sea
- due to damage to a ship or its equipment provided that:
 - all reasonable precautions were taken after the occurrence for the purpose of preventing or minimizing the discharge; or
 - the owner or master did not act either with the intent to cause damage, or recklessly; or
 - approved oily material is discharged to combat specific pollution incidents to minimize the damage from pollution.

A master may exempt from his criminal liability in accordance with the above, under MARPOL, but, in accordance with the **International Convention on Civil Liability for Oil Pollution Damage (CLC)** and the **International Convention on Civil Liability for Bunker Oil Pollution Damage**, ship owner will be liable for the damage caused by the pollution.

The ship owner may also escape from his liability for the damage caused by the oil pollution under both the **International Convention on Civil Liability for Oil Pollution Damage** and the **International Convention on Civil Liability for Bunker Oil Pollution Damage**, if the ship owner manages to prove that:

- the damage resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character, or
- damage was wholly caused intentionally by a third party, or
- damage was wholly caused by negligence of public authorities in maintaining navigational aids.

Therefore, if the master can collect evidence which could be similar to the above exemptions, the master himself and the ship owner both will be able to escape from their criminal and financial liabilities. But this may depend upon the local regulations.

J) Actions to be taken in case of a propulsion failure

Most of the initial actions are required to be taken by the duty officer until the master arrives at the bridge if it happens with his absence on the bridge. The initial actions must be taken immediately without any delay.

- Use vessel's initial momentum to bring the vessel to a safer area.
- Put the bridge telegraph to stop.
- Engineers will request to switch to engine controls.
- Engage hand steering.
- Transmit a SECURITE message.
- Display NUC signals.
- Update AIS status.
- Start recording events.
- When the vessel has completely lost steerage, bow thrusters may be used to keep the vessel facing the wind, current or waves to avoid severe rolling & to reduce drift.

If in coastal areas:

- Call for anchor party and prepare for emergency anchoring.
- Consider of anchoring until the repairs are completed.

- Consider of calling for salvage depending upon the circumstances (example - if there is danger of running aground in bad weather).
- Depending on the circumstances, may consider of sending a distress message and abandoning the vessel.

K) Actions to take when the anchor is dragging

- Call for anchor party, make ready the engines (in fact, if weather deterioration was expected, a prudent master shall consider of keeping the engines standby), inform close by ships/port authority and hoist the 'Y' flag.
- Switch on the bow thrusters. This may not be required while the vessel is dragging but will be useful when the vessel is underway.
- If it is possible, dragging could be reduced/stopped by lowering few more shackles. But this should be done with the aid of head movements on the engines.
- If the collision threat with another vessel at anchor is imminent, can use the rudder to change the direction of the drag. But this may not be useful in extreme weather conditions.
- If the collision or grounding is imminent, can try the second anchor under foot.
- May have to consider of re-anchoring. In such cases, some port regulations may require having a pilot onboard. Sometimes, it may take some time for the pilots to arrive. In that case, the safety of the vessel is very important and therefore, the master can use his overriding authority with regards to the safety of the vessel, cargo, ship and the marine environment.
- If the weather condition is further deteriorating, need to think of heaving up the cable and proceeding into high seas.
- If the danger is imminent and no actions taken onboard are sufficient enough, send distress message and call for salvage. If the time does not permit for salvage, consider of abandoning the vessel.

L) Actions to be taken in case of a steering gear failure

Most of the initial actions are required to be taken by the duty officer until the master arrives at the bridge if it happens with his absence on the bridge. The initial actions must be taken immediately without any delay. First, call for emergency steering, inform engine room and until the emergency steering party is ready:

- Use steering failure check list.
- Change over to manual steering if the vessel is in auto pilot.
- Try with the second steering pump.
- If that is also not working, try non-follow up mode.
- If that is also not working, the only option available is to steer the vessel from the steering gear room.

- Display NUC signals.
- Send a SECURITE message and update the vessel's around.
- All the events to be recorded.
- Up-date AIS status.
- If there is imminent danger (as an example if the vessel is experiencing bad weather) consider of sending a distress message or call for salvage.
- Consider of diverting the vessel for a port of refuge if it is not possible to repair by own staff.

If in coastal waters:

- Prepare engine for stopping.
- Call for anchor party and prepare anchors for emergency anchoring.
- Reduce the speed to minimum steerage speed.
- May use bow thrusters to steer the vessel at reduced speeds until the emergency steering party is ready.
- Consider of anchoring until the matter is rectified.
- Consider of calling for towage or salvage depending upon the danger (if the vessel is drifting towards shallow areas with bad weather, better to send a distress message and call for salvage)

M) When another vessel is in distress³⁰

SOLAS Chapter V, Regulation 33 states:

- The master of a ship at sea which is in a position to be able to provide assistance on receiving information from any source that persons are in distress at sea, is bound to proceed with all speed to their assistance, if possible informing them or the search and rescue service that the ship is doing so. If the ship receiving the distress alert is unable or, in the special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, the master must enter in the log-book the reason for failing to proceed to the assistance of the persons in distress, taking into account the recommendation of the Organization, to inform the appropriate search and rescue service accordingly.*
- Masters of ships shall be released from the obligation imposed by paragraph (a) above on learning that their ships have not been requisitioned and that one or more other ships have been requisitioned and are complying with the requisition. This decision shall, if possible be communicated to the other requisitioned ships and to the search and rescue service.*
- The master of a ship shall be released from the obligation imposed by paragraph (a) and, if his ship has been requisitioned, from the obligation imposed by paragraph (b) on being informed by the persons in distress or by the search and rescue service or by the master of another ship which has reached such persons that assistance is no longer necessary.*

³⁰ Refer IAMSAR Manual, Volume III for detailed information

- d) *Masters of ships who have embarked persons in distress at sea shall treat them with humanity, within the capabilities and limitations of the ship.*

Actions to be taken when a distress message is received

- Acknowledge the receipt.
- Collect information from the distress vessel. Such information may include;
 - Her position.
 - Identity, call sign and name.
 - Number of persons onboard.
 - Nature of distress or casualty.
 - Type of assistance required.
 - Her Course & speed.
 - Type of the vessel and cargo onboard.
 - Other information which are required for search and rescue operations.
- Carryout a risk assessment and decide whether it is safe for you to proceed for the assistance. Following points may be important in deciding whether to proceed or not:
 - Availability of bunkers.
 - Distance to the distress vessel from the own vessel.
 - Prevailing weather condition.
 - Distance to the distress vessel from land.
 - Whether the distress scene is an area where the shipping traffic is too low.
 - Whether you have any seriously injured people already onboard and proceeding for MEDEVAC.
 - Whether your own vessel is proceeding for a port of refuge.
- Following information to be transmitted to the distressed vessel if you decide to proceed for assistance:
 - Own vessel's identity, call sign and name;
 - Own vessel's position;
 - ETA to the distress vessel; and
 - Distressed craft's true bearing and distance from ship.
- Inform your ship owners, charterers and Rescue coordinating centre (RCC) or Coast Radio Station (CRS). If the time permits, discuss the about the operation with chief officer, chief engineer, second engineer and brief others onboard.
- Maintain continuous listening watch on;
 - 2182 KHz (radiotelephony);
 - 156.8 MHz FM (channel 16, radiotelephony); and
 - 121.5 MHz AM (radiotelephony) – aircraft distress channel.

- Always keep updating yourself about the latest condition of the distressed vessel.
- Update RCC or CRS.
- By using all available means (radar, AIS etc.) try to identify the position of the distressed vessel.
- When coming closer to the scene;
 - Post extra lookouts;
 - Establish communications with the other vessels heading to the scene and estimate their ETAs;
 - Monitor the other vessels around and
 - Carryout a risk assessment again before stating the operation

Appointing of an on-scene coordinator (OSC)

When there are two or more search & rescue (SAR) facilities are engage in a SAR operation, one facility will be appointed as OSC by the search & rescue mission coordinator (SMC). The first facility who come to the scene will normally take the responsibility of the OSC, until SMC delegates the duties to another facility.

If it is practicable, appointing of an OSC should be done before arrival at the scene. If it is not practicable to appoint an OSC by SMC, OSC to be appointed by mutual agreements between the SAR facilities engaged in the operation.

Duties of OSC

- On-scene coordination of all the SAR facilities.
- Usually, search and rescue action plan is developed by SMC. The OSC has to carry out the plan. If such plan is not received, OSC must plan the search and rescue action plan.
- Depending upon the circumstances the search and rescue action plan may be modified by the OSC if it is necessary, but keep the SMC informed.
- On-scene commination to be coordinated.
- Monitor and provide necessary information to other SAR units.
- Ensure the operation is conducted safely.
- Periodic situation reports (SITREPS) to be made to SMC. Refer the IAMSAR Manual for SITREP format.
- Make sure to keep a record of operations. The records may include;
 - Arrival/departure times of the SAR facilities to the scene.
 - Search patterns used with the times.
 - Areas searched.
 - Track spacing used

- Reports made by other SAR units engaged.
 - Actions taken, and results obtained.
- Advice SMC to release SAR units, if not require any more.
 - Number and names of survivors onboard each SAR facility to be recorded by OSC and report to SMC.
 - Request additional assistance from SMC if required. Example – if further SAR units are required or medical evacuation of seriously injured survivors are required, or any other medical facilities are required etc.

Handling of deceased persons

Normally, searching or recovering of dead bodies are not a part of SAR operations. If possible, without putting the rescuers in danger, an attempt may be made to identify the bodies. Any articles removed or found near by a body to be collected separately and deliver to a proper authority. Remember, collecting of articles is not compulsory.

May have to handle human remains at the request of SMC. At the same time, human remains at an aircraft crash site should not be disturbed or removed without authorization except for compelling reasons.

Onboard preparations while proceeding to the scene

- Keep IAMSAR Manual Volume III and International Code of Signals standby.
- Comply with the company check lists with regards to proceeding to assist distress vessels/people.
- Rig a GUEST WARP secured with the LIZARD LINES from bow to quarter on both sides of the vessel at the water line. (to made fast the boats and rafts alongside)
- First aid party to be prepared with all equipment such as medical supplies, medicines, extra clothing, stretcher, blankets, fresh water, food etc.
- Rescue boat and rafts to be prepared for immediate use.
- Rig portable ladders, scramble nets from the lowest point of the deck up to the water level.
- Line throwing apparatus, life buoys, life jackets, pilot ladder, heaving lines, messenger lines etc. to be kept ready for immediate use.
- Signalling and communication equipment such as Aldi's lamp, loud hailers, megaphones, torches, VHF sets etc. to be kept ready.
- Post extra lookout when approaching to the area.
- Pass all available information to the RCC and update the information as necessary.
- During dark hours, arrange searchlights and extra illumination.
- Prepare cranes and derricks for taking survivors onboard. Even though cargo gears can not be used for transferring persons, these may be used in case of emergencies.

- A davit-launch life raft or lifeboat can be used as a boarding station.
- Follow the guidelines provided in the own ship's 'Plans and procedures for recovery of persons from the water'. Also refer the "GUIDELINES FOR THE DEVELOPMENT OF PLANS AND PROCEDURES FOR RECOVERY OF PERSONS FROM THE WATER"³¹ developed by IMO.

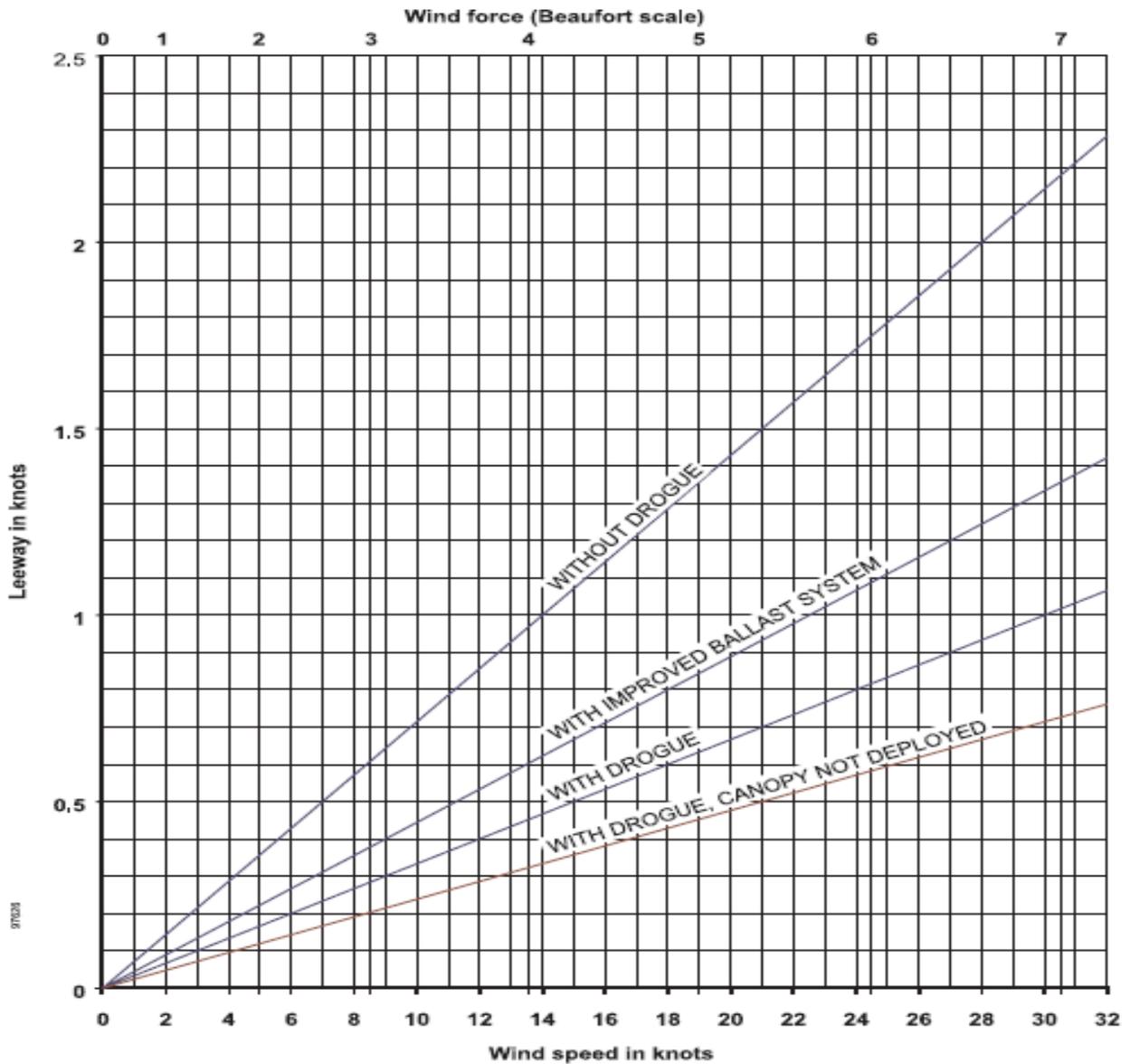
Datum³²

If the distress vessel is in touch through the VHF or any other means of communication, identifying her position may not be that difficult. But, if the distress vessel is not in touch, identifying of the position may be difficult (when the distress vessel is smaller). In that case, a search pattern is required to be decided and to start the search, a datum is required. A geographic point, line, or area used as a reference in search planning is known as 'Datum'. Following factors to be considered when establishing a datum.

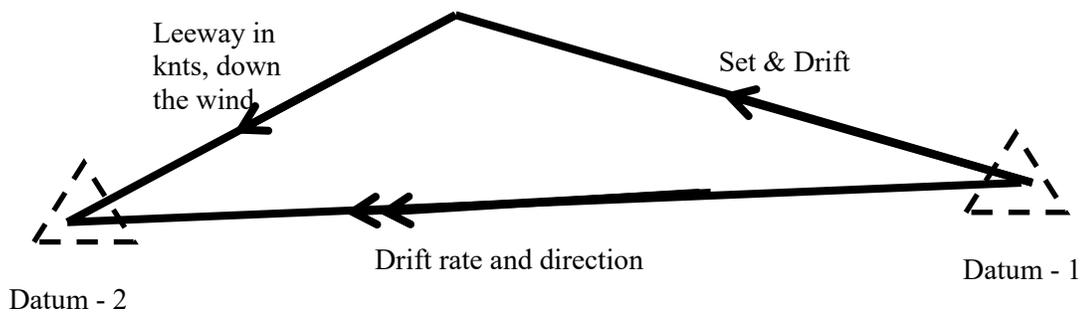
- The reported position and time of the SAR incident.
- Other information such as SART bearings or sightings.
- Time interval between the incident and the arrival of SAR facilities.
- The datum position of the search is found as follows:
 - drift has two components: leeway and total water current.
 - leeway direction is downwind.
 - leeway speed depends on wind speed.
 - the observed wind speed when approaching the scene may be used for estimating leeway speed.
 - Persons in the water have no leeway but have the effects of current.
 - Calculate the set & drift at the scene.
- Drift distance is the drift speed multiplied by the time interval between the incident time, or time of the last computed datum, and the time of the commencement of the search.
- On the chart below, apply the wind speed from the bottom or the wind force from the top & take the leeway (knts) for various conditions of the life raft.

³¹ Refer MSC.1/Circ. 1447 of IMO or the latest

³² IAMSAR Manual, Volume III



- In the below diagram, Datum – 1 is the last known position. Below illustrated triangle shall be made on an applicable chart for the time interval between the incident time, or time of the last computed datum, and the commence search time. First, from the datum – 1 apply the set and drift and then apply the leeway to calculate the Datum – 2 (the estimated position of the life raft). Then use the Datum – 2 as the datum to start the search.



Search patterns

Refer the latest edition of IAMSAR Volume III for better understanding.

Initiation of the search

- If one vessel arrives in advance of the others, commence an expanding square search
- The datum may be marked by an own vessel's life raft or other floating marker with a leeway similar to the distressed vessel.
- As other vessels arrive, the OSC should select one of the search patterns.
- In good visibility and with sufficient search facilities, the OSC may let the first facility continue its expanding square search while the others conduct a parallel track search.
- In restricted visibility, or if sufficient vessels are not available to conduct the search, it will be better to stop the expanding square search initiated by the first vessel arrived on-scene and start a parallel track search with other vessels.

In restricted visibility

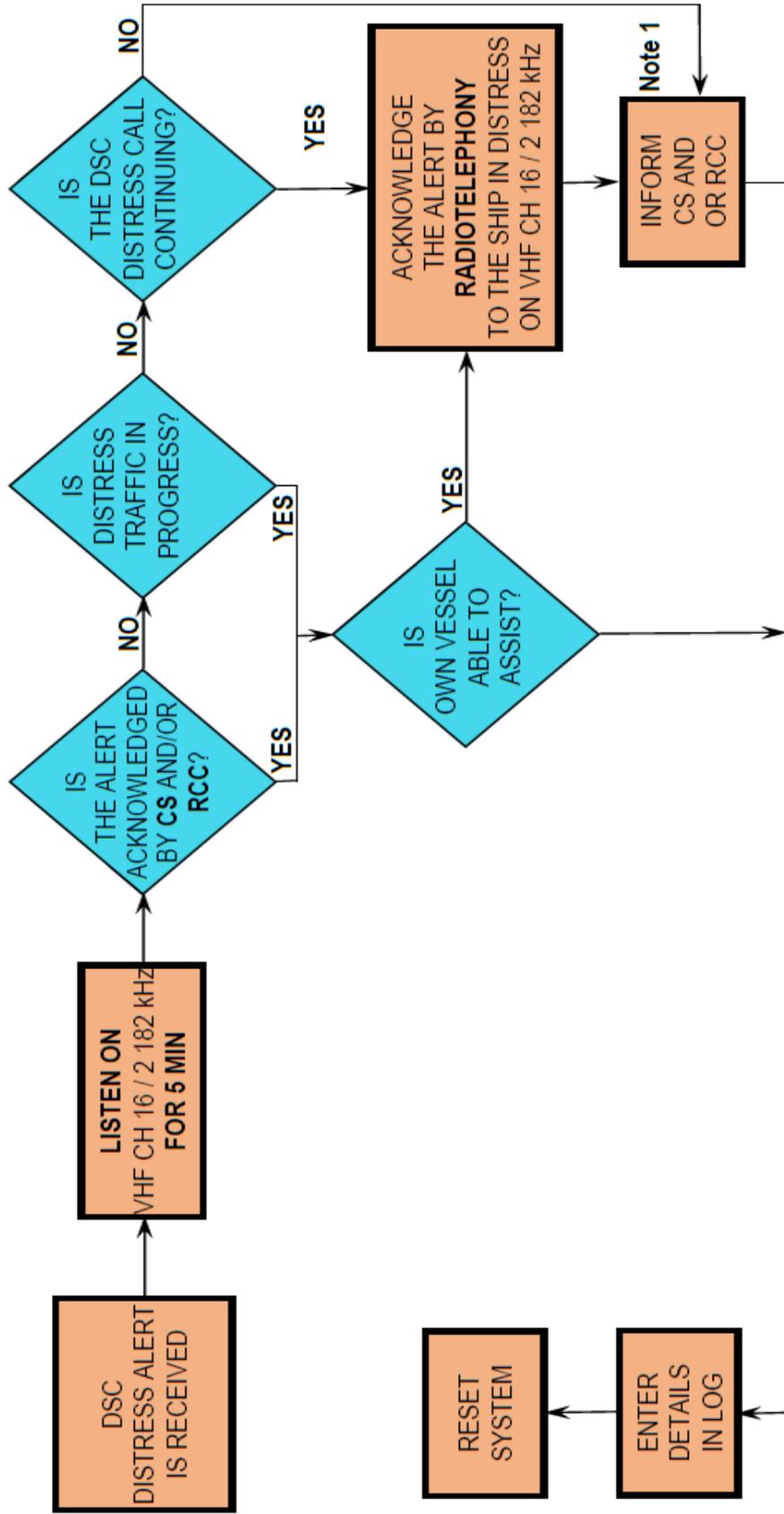
- A parallel track search may cause problems due to:
 - desirability of reducing the interval between SAR facilities as much as possible consistent with safety
 - resulting loss of search area coverage
 - potential risk of collision.
- Reduction of the speed would be necessary.
- Following to be considered before initiating a search pattern in restricted visibility:
 - Searches will take long time due to reduction of speeds.
 - To carry out a good search, the track spacing need to be reduced.
 - If the track spacing is reduced, need to increase the number of tracks.
- May have to reduce the search area considering the direction and the rate of estimated drift.

N) Procedure for responding to DSC distress alerts by ships³³

³³ Refer IMO, MSC.1/Circ.1657 or the latest

FLOW DIAGRAM 1

ACTIONS BY SHIPS UPON RECEPTION OF A VHF / MF / DSC DISTRESS ALERT



REMARKS:

Note 1: Appropriate or relevant RCC and/or coastal station should be informed accordingly. If further DSC distress alerts are received from the same source and the ship in distress is beyond doubt in the vicinity, a DSC acknowledgement may, after consultation with an RCC or coastal station, be sent to terminate the call.

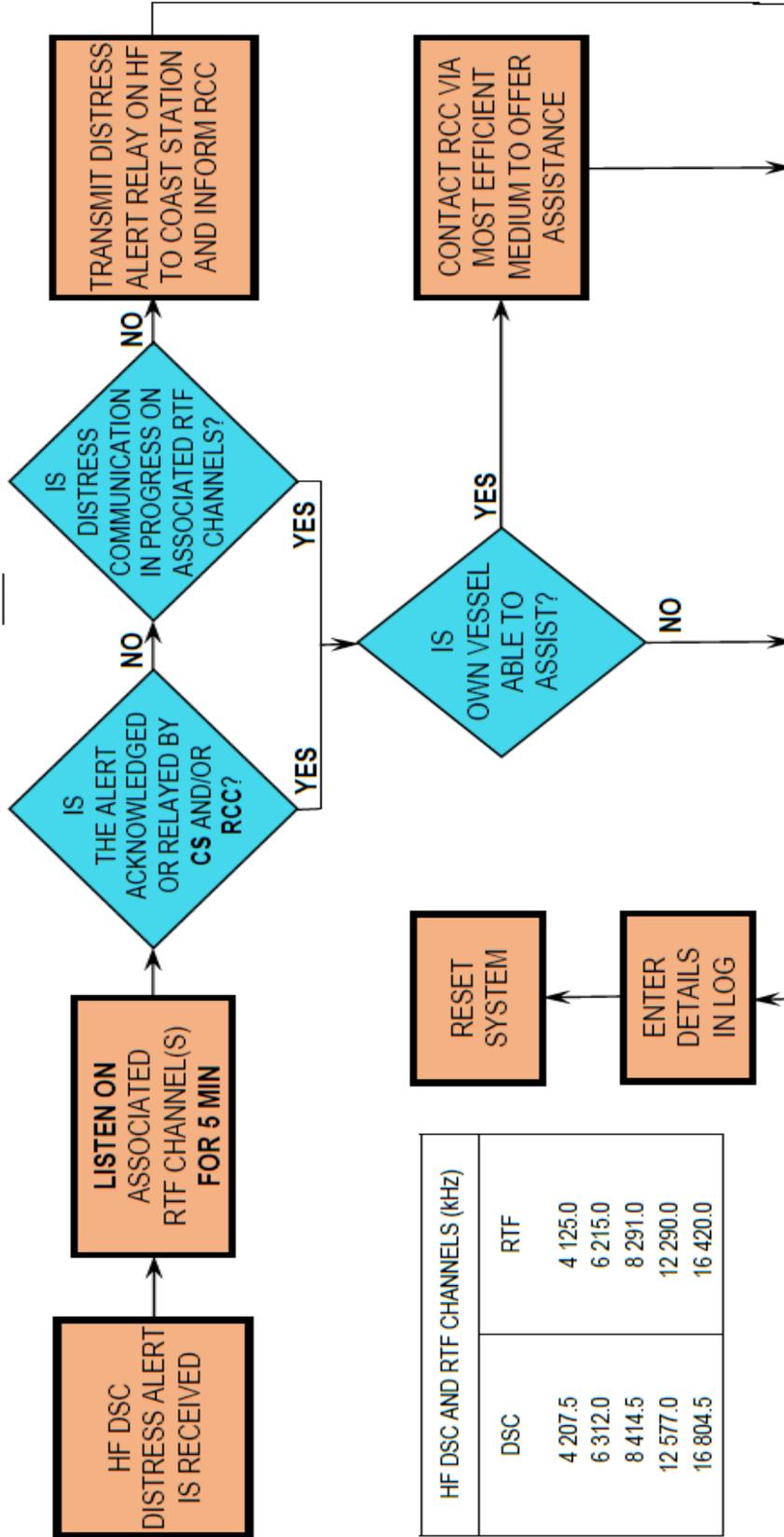
Note 2: In no case is a ship permitted to transmit a DSC distress alert relay on receipt of a DSC distress alert on either VHF channel 70 or MF channel 2 187.5 kHz.

CS = coastal station

RCC = rescue coordination centre

FLOW DIAGRAM 2

ACTIONS BY SHIPS UPON RECEPTION OF A HF DSC DISTRESS ALERT



REMARKS:

NOTE 1: If it is clear the ship or persons in distress are not in the vicinity and/or other crafts are better placed to assist, superfluous communications which could interfere with search and rescue activities are to be avoided. Details should be recorded in the appropriate logbook.

NOTE 2: The ship should establish communications with the station controlling the distress as directed and render such assistance as required and appropriate.

NOTE 3: Distress alert relays should be initiated manually.

CS = coastal station

RCC = rescue coordination centre

O) Turning a vessel in case of a MOB

Refer the latest edition of IAMSAR Volume III for better understanding.

P) Actions to be taken in case of pier damage during mooring operations

In accordance with the 'Harbours, Docks and Piers Clauses Act 1847, UK', the registered owner is liable for any damages made to a pier. On the other hand, in accordance with the English law, pilot is considered as a ship owner's employee. Therefore, damages made to infrastructure of a port authority has to be paid by the owner of the vessel. But, if the master can prove that the pilot was incompetent or not medically fit or in a similar condition, the ship owner may be able to avoid liabilities depending upon the local legislation.

In general, a master has to consider the below points in case of a damage made to infrastructure of a port by his ship:

- If the berth is damaged considerably, master may have to consider of anchoring the vessel in a safe position immediately. Assess the damage (soundings, physical inspections, possibility of fire, oil spills, injuries to staff etc.) in the earliest possible time.
- If the incident has occurred while un-berthing, may have to consider of anchoring the vessel for damage assessment.
- Deploy appropriate contingency plan.
- Take photographic evidence.
- Report to:
 - Vessel owners, vessel's managers (if any) & charterers (if any)
 - P & I club
 - Flag state (depending upon the severity and their regulations)
 - Class (depending upon the severity)
 - Local authorities through the pilot
- The report made to the P & I may contain;
 - Date & time of the incident;
 - Geographical place of the incident;
 - Whether the pilot onboard or not;
 - Ranks who were on the bridge;
 - With tugs or without tugs;
 - Course & speed at the time of the incident;
 - Weather condition (wind force, wind direction, condition of the sea etc.);
 - Condition of the visibility; and
 - Names of people who witnesses the situation.

- If the vessel is severely damaged or when there is a pollution threat, may have to take services of external parties in the port state. Usually, within port limits harbour tugs cannot claim salvage as they are obliged to give such services but may claim for their services (whether they claim or not, safety of people, vessel, cargo & marine environment is important). Information about such service providers can be obtained from local agents and pilot.
- Never accept the fault (especially when pilot onboard or tugs involved). Never sign any letters regarding compensation claims.
- Enter correct facts on logbooks.
- The owner of the damaged property sometimes demands Master's signature on a Loss of or Damage to Property letter of acknowledgement. In such cases, please restrict your statement only to acknowledgement of the accident and avoid statement regarding liability. You should be deliberate in dealing with letters of acknowledgement, since in many cases the opponent demands what states the vessel's side admits liability for the accident and compensation for any and all damage³⁴.

LETTER OF ACKNOWLEDGEMENT (Damage to Jetty)

Date :

To : (Name of owner / manager of property)

At around 2000 hours on 30th of July 2017, during operations for berthing to the jetty at (place), the vessel contacted the fenders installed on the jetty and 02 sets of fenders got damaged.

I acknowledge the above fact.

(signature)

Taro Nippon

Master of PI Maru

Owned by PI Maritime Co. Ltd.

2-15-14, Nihonbashi-Ningyocho, Chuoh-ku, Tokyo

³⁴ The Japan Ship Owners' Mutual Protection & Indemnity Association, Master's Handbook, https://www.piclub.or.jp/attachment/insurance_guidebooks/MASTER'S%20HANDBOOK.pdf (Accessed: 19/11/2025)

CASUALTY INVESTIGATIONS

IMO adopted the Casualty Investigation Code aiming to give all the States involved in marine safety investigations a common approach and the objective of the Code is to conduct investigations to prevent marine casualties and marine incidents in the future. Important areas from the casualty investigation Code are highlighted below for better understanding:

*A **marine casualty** means an event, or a sequence of events, that has resulted in any of the following which has occurred directly in connection with the operations of a ship:*

- *the death of, or serious injury to, a person;*
- *the loss of a person from a ship;*
- *the loss, presumed loss or abandonment of a ship;*
- *material damage to a ship;*
- *the stranding or disabling of a ship, or the involvement of a ship in a collision;*
- *material damage to marine infrastructure external to a ship, that could seriously endanger the safety of the ship, another ship or an individual; or*
- *severe damage to the environment, or the potential for severe damage to the environment, brought about by the damage of a ship or ships.*

*A **marine incident** means an event, or sequence of events, other than a marine casualty, which has occurred directly in connection with the operations of a ship that endangered, or, if not corrected, would endanger the safety of the ship, its occupants or any other person or the environment.*

*A **causal factor** means actions, omissions, events or conditions, without which:*

- *the marine casualty or marine incident would not have occurred; or*
- *adverse consequences associated with the marine casualty or marine incident would probably not have occurred or have been as serious;*
- *another action, omission, event or condition, associated with an outcome in above two, would probably not have occurred.*

*A **very serious marine casualty** means a marine casualty involving the total loss of the ship or a death or severe damage to the environment.*

However, a marine casualty or marine incident does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment.

When a marine casualty occurs on the high seas or in an exclusive economic zone, the flag State of a ship, or ships, involved, shall notify other substantially interested States as soon as is reasonably practicable.

At the same time, a marine safety investigation shall be conducted by the flag state into every very serious marine casualty.

All States shall ensure that their national laws provide investigator(s) carrying out a marine safety investigation with the ability to board a ship, interview the master and crew and any other person involved, and acquire evidential material for the purposes of a marine safety investigation.

Where a marine safety investigation requires a seafarer to provide evidence to it, the evidence shall be taken at the earliest practical opportunity. The seafarer shall be allowed to return to his/her ship or be repatriated at the earliest possible opportunity. The seafarer's human rights shall, at all times, be upheld.

All seafarers from whom evidence is sought shall be informed of the nature and basis of the marine safety investigation. Further, a seafarer from whom evidence is sought shall be informed, and allowed access to legal advice, regarding:

- *any potential risk that they may incriminate themselves in any proceedings subsequent to the marine safety investigation;*
- *any right not to self-incriminate or to remain silent;*
- *any protections afforded to the seafarer to prevent the evidence being used against them if they provide the evidence to the marine safety investigation.*

The evidence for which ready access should be provided should include:

- *survey and other records held by the flag State, the owners, and classification societies;*
- *all recorded data, including voyage data recorders; and*
- *evidence that may be provided by government surveyors, coastguard officers, vessel traffic service operators, pilots or other marine personnel.*

When a marine safety investigation is commenced under this Code, the master, the owner and agent of a ship involved in the marine casualty or marine incident being investigated, should be informed as soon as practicable of:

- *the marine casualty or marine incident under investigation;*
- *the time and place at which the marine safety investigation will commence;*
- *the name and contact details of the marine safety investigation Authority(ies);*
- *the relevant details of the legislation under which the marine safety investigation is being conducted;*
- *the rights and obligations of the parties subject to the marine safety investigation; and*
- *the rights and obligations of the State or States conducting the marine safety investigation.*

Any ship involved in a marine casualty or marine incident may continue in service, and that a ship should not be delayed more than is absolutely necessary.

Other substantially interested States (such as coastal states, port state etc.) may also:

- *interview witnesses;*

- *view and examine evidence and make copies of documents;*
- *make submissions in respect of the evidence, comment on and have their views properly reflected in the final report; and*
- *be provided with the draft and final reports relating to the marine safety investigation³⁷.*

In some situations, the master may have to conduct an investigation and make a report. In that case, the process of carrying out an investigation will be provided in the ship's SMS.

SMS may also state what are the incidents that can be investigated by the ship's personnel and what investigations may be conducted by company personnel depending upon the severity of the incident. Following is a general approach into an investigation process, so that if you are required to carry out an investigation, it will be helpful to you. Remember, the investigation shall always be conducted by referring to the facts and shall not create a presumption of blame or liability.

- Depending upon the severity of the incident, with the instructions from the company, you may have to protect the site of the incident if it is possible to do so.
- Investigation to be completed as soon as possible, before the memories fade away.
- Observe the place of incident very carefully for possible facts and evidence.
- Always keep these words in your mind during the investigation – how, where, when, why, what and who.
- Identify witnesses and take statements.
- Interviewing of the witnesses to be done individually. The interviewee should be informed, before the interview starts, about the purpose of the investigation. The witness may be accompanied by a person nominated by him. Company SMS may contain 'witness statement form/s' to support the investigator.
- Collect evidence such as statements of facts, photographs, videos etc.
- Try to identify the causal factor/s with the aid of the evidence.
- Identify the root cause.
- Write the report and send it to the appropriate personal as listed in the ship's SMS. The report shall contain at least:
 - Initial data such as name of the vessel, date of investigation, place, name of the investigator etc.
 - Factual information such as circumstances at the time of the event, description of the vessel, description of crew, chronology of the events, documents, interviews and technical study.
 - Analysis of the incident.
 - Conclusions.
 - Recommendations and
 - Annexes which contain photos, documents, witness statements etc.

³⁷ Casualty Investigation Code 2008

LIMITATIONS AND RESTRICTIONS ON TRADING AREAS OF A VESSEL

Masters are required to have a good knowledge of the vessel's trading limits to ensure the safety of his/her ship, cargo, people onboard, marine environment. Further the master shall ensure the charter party is not breached, and marine insurance is not affected. There are couple of documents where limitations on trading areas are specified where a master must be aware of as discussed in detail below.

A) Limits imposed by charter parties

If the vessel is chartered, for the purpose of protecting the owners' interest and charterer's interests, masters is supposed to ensure the vessel is not used for trading beyond the areas as specified in the charterparty. As an example, the NYPE 2015 (New York Produce Exchange Form 2015) states:

- *The Owners agree to let, and the Charterers agree to hire, the Vessel from the time of delivery, for within below mentioned trading limits.*
- *Trading Limits - The Vessel shall be employed in such lawful trades between safe ports and safe places within the following trading limits as the Charterers shall direct.*
- *Berths - The Vessel shall be loaded and discharged in any safe anchorage or at any safe berth or safe place that the Charterers or their agents may direct, provided the Vessel can safely enter, lie and depart always afloat.*
- *The Vessel during loading and/or discharging may lie safely aground at any safe berth or safe place where it is customary for vessels of similar size, construction and type to lie at the following areas/ports (if this space is left blank then this sub-clause shall not apply), if so requested by the Charterers, provided it can do so without suffering damage.*
- *The Charterers shall indemnify the Owners for any loss, damage, costs, expenses or loss of time, including any underwater inspection required by class, caused as a consequence of the Vessel lying aground at the Charterers' request.*

B) Limitations due to constructional and operational restrictions

Vessels which are built to proceed into ice areas during winter seasons are known as 'Ice Class' vessels. Ice Classification is not required if ice areas are visited during summer periods. Note that an ice class notation is verification that the hull and machinery are strengthened to withstand ice loads to a level corresponding to the vessel's associated ice class³⁸. This can be identified by referring into Class Certificate. There are different types of ice class ships and the notations used by different classification societies to identify the same ice class vessels are different from each other.

³⁸ ABS, 2024, Guidance Notes on Ice Class, https://ww2.eagle.org/content/dam/eagle/rules-and-guides/current/special_service/136-guidance-notes-on-ice-class-2024/ice-class-gn-oct24.pdf (Accessed: 26/11/2025)

Winterisation notations issued by Classification Societies are not the same as Ice Class notations. Ice Class notations refer to the ability to structurally withstand navigation through ice, whereas winterisation notation refer to the ability to operate within a low temperature environment³⁹.

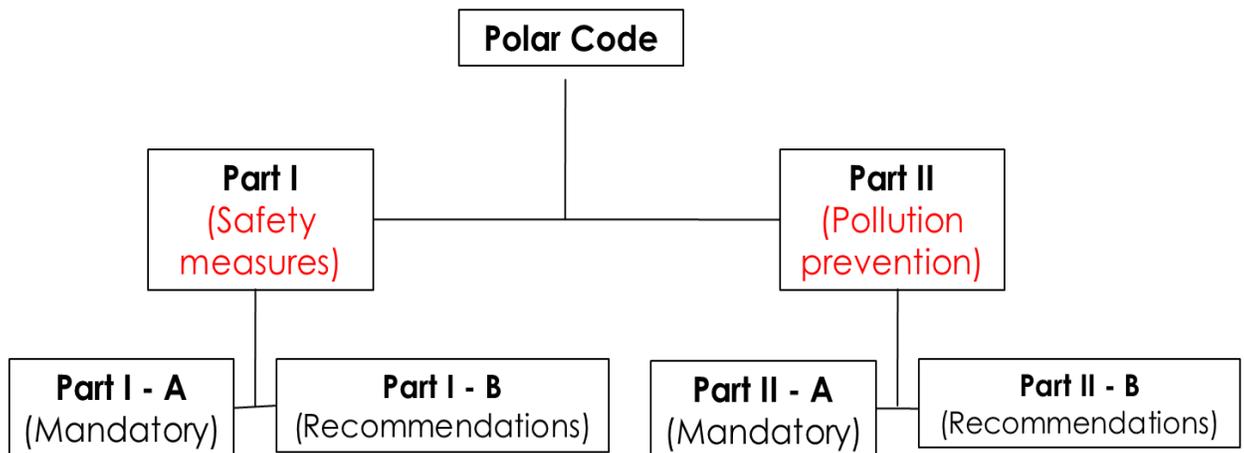
Remember, the ice class defines what kind of ice the vessel is designed to withstand and not the area the vessel will sail or operate in.

On the other hand, there are some ports where there are regulations stating that a particular vessel to have certain ice class notations when she is coming to the port during certain times of the year.

Ship owners shall ensure not to send vessels into areas where the vessel is structurally and operationally not suitable.

C) Polar Class ships (Polar Code)

Structure of the Polar Code

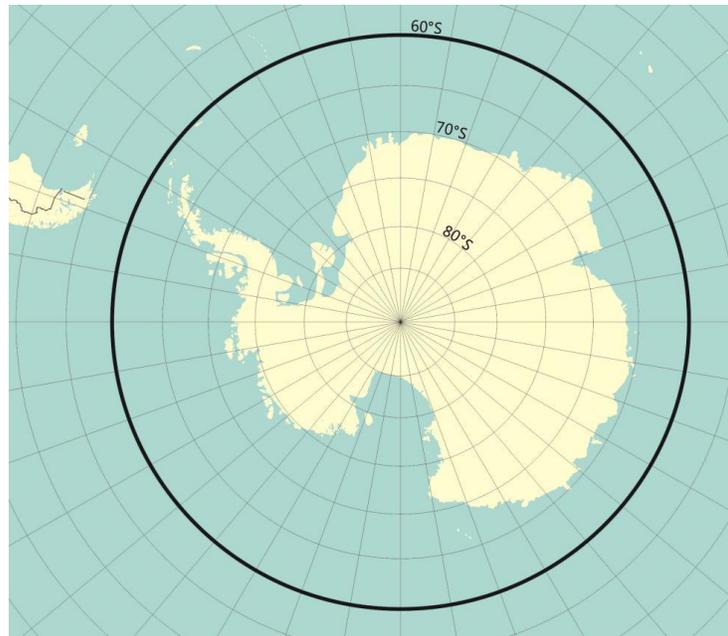


Application of the Code

- Part I** - Cargo ships of 500 GT or more, and to all passenger ships
- Part II** - All ships certified under MARPOL Annexes I, II, IV and V

³⁹ OCIMF, 2017, North Sea Route Navigation – Best Practices and Challenges, <https://www.ocimf.org/document-library/94-northern-sea-route-navigation-best-practices-and-challenges-1/file> (Accessed: 26/11/2025)

Geographical trading limits



Polar navigation limits – Antarctic area⁴⁰



Polar navigation limits – Arctic area

⁴⁰ Refer MEPC 68/21/Add.1 of IMO or the latest for further details

Categorization of polar ships

- *Category A ship means a ship designed for operation in polar waters in at least medium first-year ice, which may include old ice inclusions.*
- *Category B ship means a ship not included in category A, designed for operation in polar waters in at least thin first-year ice, which may include old ice inclusions.*
- *Category C ship means a ship designed to operate in open water or in ice conditions less severe than those included in categories A and B.*

Category A is the strongest category. Ice class notations are different from the above categories but are related.

Documents required to operate in polar waters

- **Polar Ship certificate**
- **Polar Water Operational Manual (PWOM)** – Provide information regarding the ship's operational capabilities and limitations in order to support decision-making process
- All operational level navigating officers shall have Certificate of Proficiency in Basic Training for Ships Operating in Polar Waters in addition to other certificates required by the STCW Code
- All management level navigating officers shall have Certificate of Proficiency in Advanced Training for Ships Operating in Polar Waters

Intact stability criteria

During periods where ice accretion is likely to occur, the following icing allowance shall be made in the stability calculations:

- 30 kg/m² on exposed weather decks and gangways;
- 7.5 kg/m² for the projected lateral area of each side of the ship above the water plane; and
- the projected lateral area of discontinuous surfaces of rail, sundry booms, spars (except masts) and rigging of ships having no sails and the projected lateral area of other small objects shall be computed by increasing the total projected area of continuous surfaces by 5% and the static moments of this area by 10%.

Information on the icing allowance included in the stability calculations shall be given in the PWOM.

Ice accretion shall be monitored and appropriate measures taken to ensure that the ice accretion does not exceed the values given in the PWOM.

Voyage planning

The master shall consider the following while planning a voyage:

- Procedures required by the PWOM;
- Any limitations of the hydrographic information and aids to navigation available;
- Current information on the extent and type of ice and icebergs in the vicinity;
- Statistical information on ice and temperatures from former years;
- Places of refuge;
- Current information and measures to be taken when marine mammals are encountered, relating to known areas with densities of marine mammals;
- Current information on relevant ships' routing systems, speed recommendations and vessel traffic services relating to known areas with densities of marine mammals;
- National and international designated protected areas along the route; and
- Operation in areas remote from SAR capabilities.

D) Limitations due to marine insurance

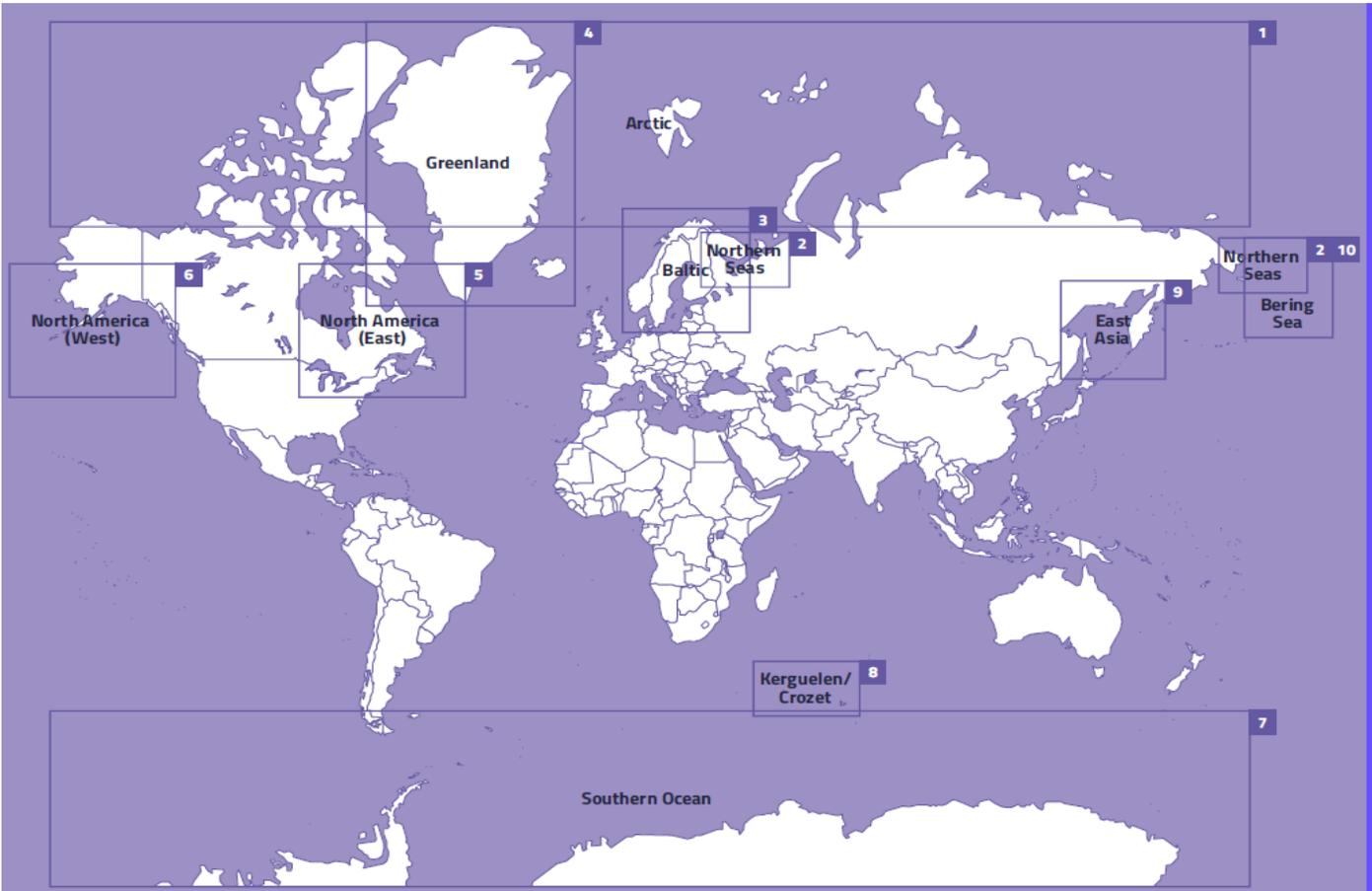
The International Navigating Limits (INL) define the geographical limits within which ships are able to operate without incurring additional insurance premium from hull and machinery and other relevant underwriters. Operating outside the INL, in areas which can include significant hazards such as ice, could lead to damage to the ship and delay necessitated by repair⁴¹. INL contains seasonally excluded areas as well as permanently excluded areas. Following areas are few examples of permanently excluded areas from INL:

- North of 70⁰ N latitude,
- White Sea.
- Chukchi Sea,
- Greenland territorial waters
- Great lakes

Unless and to the extent otherwise agreed by the underwriters in accordance with, the vessel shall not enter, navigate or remain in the areas specified below at any time or, where applicable, between the dates specified below (both days inclusive)⁴²:

⁴¹ NorthStandard, International Navigating Limits, [https://d3cpegos94401u.cloudfront.net/publications/documents/international-navigating-limits---loss-prevention-briefings-\(ships\).pdf](https://d3cpegos94401u.cloudfront.net/publications/documents/international-navigating-limits---loss-prevention-briefings-(ships).pdf) (Accessed: 26/11/2025)

⁴² ibid



ISM Code

Certification & documentation requirements⁴³

Documents required for a Company

A) Interim Document of Compliance (DOC)

The period of validity of the Interim DOC shall be twelve months and an Interim DOC may be issued in the following cases. Copy of the interim DOC shall be available onboard all the ships belonging to the company.

- In the case of a newly established Company
- In the case of Addition of new Ship Types

B) DOC

DOC(s) shall be issued to a Company by the Flag Administration or a recognized organization under the authority of the Flag Administration, upon successful completion of an Initial Audit. At the Audit, the SMS of the company and at least one ship of each ship type covered by the SMS should have been in operation for at least three months and, the internal Audits for them should have been carried out.

The period of validity of a DOC, issued after Initial Audit, shall be five years from the last date of the Audit subject to Annual Audit carried out yearly. Copy of the DOC shall be available onboard all the ships belonging to the company.

C) Short-term DOC

A short-term Certificate issued to cover the period until a full-term DOC is issued. When the Flag Administration issues a full-term DOC, a short-term DOC(s) valid for five months shall be issued to a Company on the last date of Audit by the recognized organization as a proof of satisfactory completion of the Initial Audit or Renewal Audit.

Certificates required for a Ship

A) Interim Safety Management Certificate (Interim SMC)

An Interim SMC may be issued in the following cases;

⁴³ ClassNK, Safety Management System – Handbook for ISM Audits (Applicable to Non-Japanese Flag Ships), 2024, https://www.classnk.or.jp/hp/pdf/activities/statutory/ism/Hnd-BK/handbook1_e.pdf (Accessed: 26/11/2025)

- a newly built ship;
- a ship for which the management Company has changed;
- a ship to which SOLAS IX applies as mandatory requirements due to conversion, change of navigation area, etc; or
- a ship for which the flag has been changed.

The period of validity of an Interim SMC shall be six months. In special cases the validity of an Interim SMC may be extended for a further six month maximum, provided the Flag permission to do so.

The ship shall undergo Initial Audit to obtain a SMC within the validity of the Interim SMC.

B) Safety Management Certificate (SMC)

A SMC shall be issued to a ship, which is managed by a Company who is in possession of DOC (not Interim DOC), by the Flag Administration or a recognized organization under the authority of the Flag Administration upon successful completion of an Initial Audit. At the Audit, the Company's SMS should have been in operation for at least three months in the shipboard. And, the Internal Audits should have been carried out.

The period of validity of a SMC, issued after Initial Audit, shall be five years from the last date of the Audit, subject to an Intermediate Audit carried out between the second and third anniversary date.

The original of the SMC shall be placed on board and a copy of the SMC shall be kept by the Company.

C) Short-term SMC

When the Flag Administration issues a full-term SMC, a Short-term SMC valid for five months shall be issued to a ship on the last date of the Audit by a recognized organization as a proof of satisfactory completion of an Initial Audit or a Renewal Audit. This is a proof of compliance with the ISM Code until the full-term certificate is received onboard.

Master's responsibilities and duties

In accordance with the ISM Code, the master is responsible for:

- implementing the safety and environmental-protection policy of the Company;
- motivating the crew in the observation of that policy;

- issuing appropriate orders and instructions in a clear and simple manner;
- verifying that specified requirements are observed; and
- periodically reviewing the SMS and reporting its deficiencies to the shore-based management.

The company is obliged to provide clear instructions to the master in achieving the above-mentioned objectives. Generally, follow the below guidance in achieving the above objectives.

Implementation of ISM

Ensure that the;

- master himself is aware of the SMS;
- certificates related to ISM Code, SMS documents, placards, posters, notices etc. are onboard and maintained in accordance with the company requirements;
- company policies are understood by crew & officers;
- staff are aware of their duties and emergency duties;
- emergency schedules are displayed;
- safety, security and pollution prevention placards are displayed;
- safe working practices are being followed;
- safety checklists are used prior to the commencement of work;
- relevant staff members are having access to the relevant SMS documents;
- relevant records are maintained;
- investigation of accidents/near misses are carried out & preventive measures taken;
- training and drills are conducted in accordance with the company's drill matrix;
- risk assessment is carried out before the commencement of any work;
- work & rest hours are being maintained;
- watch schedules are displayed and maintained;
- clear and appropriate orders & instructions are given;
- staff are aware of the DPA and his contact details; and
- onboard inspections are carried out to ensure that the ISM is properly implemented.

Motivation of the crew

Explain the objectives of the ISM Code to the staff and make them understand that by complying with the ISM Code, their lives, ship, cargo and the marine environment can be protected.

Motivations of the staff can be done through;

- Safety Committee Meetings;
- Videos;
- Tabletop discussions;
- Onboard discussions with regards to company circulars related to accidents and incidents;
- Onboard discussions with regards to near misses and preventive measures;

- Training sessions; and
- Emergency drills.

Issuing of appropriate orders and instructions

The master will have to issue various orders and instructions during the day to day operations and during emergency situations. These orders may be divided into the following two categories:

- Situational orders/instructions and
- Long term orders/instructions

When issuing long term orders, it is always better to be proactive rather than reactive. Whatever the orders or the instructions must be clear and make sure staff have understood them. Orders and instructions can be issued through;

- master's standing orders;
- night order book;
- displaying of posters/notices; and
- verbal orders

Verification to ensure that specified requirements are observed

It is important to carryout verifications to ensure the specified requirements are observed and the objectives of the ISM Code are achieved. This can be achieved by;

- direct workplace observations;
- referring to records such as:
 - checklists;
 - records;
 - logbooks;
 - voyage plans; and
 - PMS.
- question and answer sessions;
- drills (by monitoring the performances and progress of the staff); and
- carrying out audits by the master himself.

Periodical review of the SMS and report

Master is required to review the SMS periodically (time frame to be specified by the company) to ensure the objectives of the ISM Code are achieved and any amends are required to the existing SMS. The company to be notified, if any deficiencies are found along with the proposals to rectify

the matters and recommendations to improve the system. Reviewing of the system can be done through;

- documentation reviews to ensure the contents are correct and applicable to the vessel;
- past audit reports;
- PSC inspection reports;
- discussions in safety committee meetings;
- direct workplace observations;
- monitoring onboard training;
- accidents and near miss records; and
- Evaluating the existing practices against international standards, trade practices and personal experience.

The SMS will be having ‘master’s review’ forms in order to facilitate the master, to carry out the review easily.

ISPS CODE

Interim International Ship Security Certificate (Interim ISSC)

An Interim ISSC which is valid for a maximum period of 6 months and may be issued in the following situations:

- on delivery or prior to its entry into service
- change of flag or
- change of ownership of a vessel

Interim ISSC will be issued once it is verified that:

- the ship security assessment has been completed (refer the ISPS Code for more details),
- a copy of the SSP is onboard, has been submitted for approval and being implemented onboard,
- the ship is provided with a ship security alert system,
- arrangements have been made for initial, renewal and intermediate verifications along with additional verifications if required by the Flag,
- the master, the SSO and other ship's personnel with specific security duties are familiar with their duties and responsibilities, and
- the SSO meets the training, certification and competency requirements of the ISPS Code.

Short Term ISSC

A certificate issued to cover the period until a full-term ISSC is issued. As a rule, it is issued after Initial, Renewal or Additional Audit. A short term ISSC could be issued if an Administration authorizes. It could be issued after a renewal audit as a proof that the audit was completed successfully with satisfactory result⁴⁴.

Full term ISSC

A full-term certificate will be issued only when the vessel complies with the relevant areas of the ISPS Code subjected to Initial, Intermediate and Renewal audits which shall be performed only under normal operating conditions. This is valid for a period of 5 years subject to at least one intermediate verification between the second and third anniversary dates of the certificate.

⁴⁴ ClassNK, Handbook for Ship Security System Audit, 2024,
https://www.classnk.or.jp/hp/pdf/activities/statutory/isps/handbook_e.pdf (Accessed: 26/11/2025)

Endorsements

ISSC will be endorsed by the certificate issuing authority after a successful completion of;

- intermediate verification
- additional verifications (if required by Flag State)
- renewal verification, but when a new certificate cannot be placed onboard before the expiry date of the certificate
- additional verifications to avoid exceeding the maximum intervals between verifications as provided in the ISPS Code

An ISSC may be endorsed in the following circumstances as well:

- If a certificate is issued for a period of less than five years, the Administration may extend the validity of the certificate beyond the expiry date to the maximum of 5 years, provided that the required intermediate and renewal verification periods are not exceeded
- At the time of expiry if the vessel is not in a port where verification facilities are available, existing certificate may be extended until next port where facilities are available, but not more than 3 months
- If the intermediate verification is completed before the required period, the expiry date shown on the certificate shall be amended by endorsement on the certificate

Harmonizing of audits

If requested by the company, the expiry dates of the vessel's SMC (Safety Management Certificate) and the ISSC may be harmonized.

SSO's responsibilities

The SSO is responsible for the following:

- To carryout regular security related inspections and checks on board the vessel.
- Maintenance and updating of security measures and security equipment.
- Co-ordination between the ship and ports.
- Proposing modifications to SSP.
- Co-ordination between the ship and the company security officer.
- Reporting of security related incidents.
- Training of on-board personnel.

The SSO shall ensure that the following documents which are related to ISPS Code are maintained:

- Records of training and drills.

- Records of security threats and incidents.
- Records of breaches of security.
- Records of changes of security levels.
- Reports of communications related to security.
- Reports of audits and reviews of security activities.
- Records of periodical reviews of ship security assessment and ship security plan.
- Records of implementation of amendments to the plan.
- Records of maintenance, testing and calibration of security equipment.

Reviewing of the ship security plan

The ISPS code requires the SSO to carry out reviews of implementation of the plan within interval not more than 12 months to evaluate the continuous effectiveness of the plan, and to determine whether the plan needs amending. But, the SSO is also to make review of the plan under following conditions:

- If any ship security incident happens to the ship.
- Major hidden security trouble is detected during a security audit of the ship.
- Major hidden security trouble is detected during security drills on the ship.
- The company security officer requires the SSP to be reviewed.

In accordance with the ISPS Code following to be considered while reviewing:

- Whether the security equipment is in normal conditions; whether the signs of the restricted areas are clear; whether the stores of lamps are sufficient; whether locking and closing devices in the restricted areas are effective.
- Whether the persons can control the boarding points in accordance with the requirements of the specifications and procedures; whether security patrol can carry out their duty in accordance with the requirements and visitors are accompanied.
- Any security incident has happened since last review.
- Administrative actions taken against the ship by the flag state, port state security authorities due to security issues since last review.
- How many times of training have been carried out to the ship and what are the training contents since last review.
- How many security drills have been carried out onboard and what are the results since last review?
- Whether the crew can be familiar with their own security duties through training and drills.
- Whether the records related to the ship security are accurate and kept in good condition.
- Whether the plan is well implemented in the ship? Is there any difficulty encountered while implementing the SSP.

After the review;

- SSO to complete the ‘Review form’ of the SSP;
- Master to sign the review form;
- Review form to be sent to CSO;
- If the CSO considers it necessary to amend the ship security plan, he is to organize re-assessment of the ship security;
- CSO to amend the SSP in accordance with the results of the assessment;
- CSO to send the amended SSP with the results to the administration for review; and
- Revised SSP to be implemented once it is approved.

Access to the SSP

Section 9.8.1 of the ISPS Code states “*If the officers duly authorized by a Contracting Government have clear grounds to believe that the ship is not in compliance with the requirements of chapter XI-2 or part A of this Code, and the only means to verify or rectify the non-compliance is to review the relevant requirements of the ship security plan, limited access to the specific sections of the plan relating to the noncompliance is exceptionally allowed, but only with the consent of the Contracting Government of, or the master of, the ship concerned. Nevertheless, the provisions in the plan relating to section 9.4 subsections .2, .4, .5, .7, .15, .17 and .18 of this Part of the Code are considered as confidential information and cannot be subject to inspection unless otherwise agreed by the Contracting Governments concerned*”.

Section 9.4 of the ISPS Code contains following:

9.4 Such a plan shall be developed, taking into account the guidance given in part B of this Code and shall be written in the working language or languages of the ship. If the language or languages used is not English, French or Spanish, a translation into one of these languages shall be included. The plan shall address, at least, the following:

- .1 measures designed to prevent weapons, dangerous substances and devices intended for use against persons, ships or ports and the carriage of which is not authorized from being taken on board the ship;*
- .2 identification of the restricted areas and measures for the prevention of unauthorized access to them;*
- .3 measures for the prevention of unauthorized access to the ship;*
- .4 procedures for responding to security threats or breaches of security, including provisions for maintaining critical operations of the ship or ship/port interface;*
- .5 procedures for responding to any security instructions Contracting Governments may give at security level 3;*
- .6 procedures for evacuation in case of security threats or breaches of security;*

- .7 *duties of shipboard personnel assigned security responsibilities and of other shipboard personnel on security aspects;*
- .8 *procedures for auditing the security activities;*
- .9 *procedures for training, drills and exercises associated with the plan;*
- .10 *procedures for interfacing with port facility security activities;*
- .11 *procedures for the periodic review of the plan and for updating;*
- .12 *procedures for reporting security incidents;*
- .13 *identification of the ship security officer;*
- .14 *identification of the company security officer including 24-hour contact details;*
- .15 *procedures to ensure the inspection, testing, calibration, and maintenance of any security equipment provided on board;*
- .16 *frequency for testing or calibration of any security equipment provided on board;*
- .17 *identification of the locations where the ship security alert system activation points are provided; and*
- .18 *procedures, instructions and guidance on the use of the ship security alert system, including the testing, activation, deactivation and resetting and to limit false alerts.*

Following note was obtained from a vessel's SSP for your further knowledge:

IMPORTANT NOTES

01)

The SSP is not subject to detailed inspection (other than confirming its existence on the ship) by duly authorized officials of a Port State unless there are "clear ground" to believe that the ship is not in compliance with the requirements of SOLAS or the ISPS Code. The only means to verify or rectify the non-compliance is to review the relevant requirements of the SSP. In such a case, limited access to the SSP relating to the non-compliance is exceptionally allowed, but only with the consent of the Flag State, or the Master. Any such request or demand must be immediately be reported by the ship to the CSO for guidance and reference to the Flag State before any details are revealed to Non-Flag State officials.

02)

English is the official working language in all departments.

MLC 2006⁴⁵

Application of the Convention

MLC 2006 applies to all ships used for commercial purposes excluding the following:

- Vessels exclusively trading in;
 - inland waters or closely adjacent
 - sheltered waters
 - areas where port regulations apply
- fishing vessels
- ships of traditionally built such as dhows and junks
- warships or naval auxiliaries

Documentation & certification for a vessel

A) Interim Maritime Labour Certificate

Interim Maritime Labour Certificate is valid not more than 6 months and it may be issued:

- To new ships
- When a ship changes flag
- When the ship owner is changed

An initial inspection will be carried out prior issuing interim certificate. Ship owner to demonstrate that the vessel has sufficient procedures to implement the Convention (shipowner is required to complete DMLC Part II). Master to be familiar with the Convention & his responsibilities in implementation. Sufficient information provided to the competent authority to make DMLC.

B) Maritime Labour Certificate

The maximum validity period of a Maritime Labour Certificate shall not be more than 5 years. An intermediate inspection shall be carried out between 2nd & 3rd anniversary dates. If the renewal inspection conducted within 3 months before the expiry of the ML Certificate, valid for five years from the date of expiry of existing certificate. If the renewal inspection conducted more than 3 months before the expiry of the ML Certificate, valid for five years from the date of completion of the inspection.

⁴⁵ ILO, MLC 2006 and Guidelines for port State control officers carrying out inspections under the Maritime Labour Convention, 2006, as amended, Second revised edition, <https://www.ilo.org/sites/default/files/2024-06/Guidelines%20for%20port%20State%20control%20officers%20carrying%20out%20inspections%20under%20the%20Maritime%20Labour%20Convention%2C%202006%2C%20as%20amended.pdf> (Accessed: 22/02/2026)

A full inspection will be carried out before the expiry of the interim certificate by the issuing authority. As mentioned before, this inspection will be conducted to ensure the compliance of Regulations, Standards and Guidelines of the Convention.

C) Declaration of Maritime Labour Compliance Part I (DMLC Part I)

Part I of the DMLC shall be issued by the flag administration or recognized organization (as applicable) and shall contain;

- List of areas to be inspected in accordance with MLC 2006
- National requirements for the relevant areas of the Convention (reference to national legislation & summary of main contents of the legislation)
- Any ship-type specific requirements under the national legislation
- Any substantially equivalent provisions granted
- Any exemptions granted

The ML Certificate issuing authority is required to review the measures adopted by the shipowner before issuing the DMLC Part I.

D) Declaration of Maritime Labour Compliance Part II (DMLC Part II)

Part II of the DMLC shall be drawn up by the ship owner and shall contain the measures adopted to comply with the national legislation and how they are continuously improved.

Refer the Appendix A5-II of the Convention for the formats of above certificates.

Even though the Convention applies to all the vessels mentioned above, only the following types of vessels are required to possess above mentioned certificates:

- 500 GT or more engage in international voyages
- 500 GT or more engage in coasting off another member state

E) Other documents, records and publications to be carried onboard all the applicable vessels

- Copy of MLC 2006.
- Onboard complain procedures.
- Risk assessment procedures.
- Copy of the applicable national provisions with regards to repatriation.
- Copies of Seafarer's Employment Agreements.
- Copies of Collective Bargaining Agreements, if applicable.

- A document evidencing financial security for;
 - repatriation;
 - long-term disability; and
 - death.
- Evidence of proof the recruiting agency is complying with MLC 2006 (if seafarers are from non-ratifying countries).
- Need to carry following publications with regards to medical emergencies:
 - Medical guide
 - Up-to-date list of radio stations
 - International Code of Signals
- Medical chest certificate.
- Records of seafarer’s minimum rest or maximum work hours.
- Evidences of having a safety committee onboard.
- Shipboard work arrangement schedule

F) Port State inspections

The master is required to produce ML Certificate and DMLC and they will be prima facie evidence of compliance with the requirement of the Convention.

A more detailed inspection may be carried out to access the working and living conditions onboard if a PSCO finds that;

- a) the required documents are not produced or
- b) the documents are not maintained or
- c) the documents are falsely maintained or
- d) documents do not contain the information required or
- e) the documents are invalid or
- f) there are **clear grounds** for believing that the working & living conditions do not confirm to the requirement of this Convention (Articles, Regulations and Part A of the Code) or
- g) there are **reasonable grounds** to believe that the ship has changed flag for the purpose of avoiding compliance with the Convention or
- h) there is a complaint alleging that specific working and living conditions on the ship do not confirm to the requirements of the Convention

In the case of above (a) to (g), a more detailed inspection shall be carried out and may cover the matters listed below:

- Minimum age
- Medical certification
- Qualifications of seafarers

- Seafarers employment agreements
- Use of any licensed or certified or regulated private recruitment and placement service
- Hours of work or rest
- Manning levels for the ship
- Accommodation
- On board recreational facilities
- Food and catering
- Health and safety and accident prevention
- On board medical care
- On board complaint procedures
- Payment of wages
- Financial security for repatriation
- Financial security relating to shipowner's liability

In the case of above (h), a more detailed inspection shall generally be limited to the matters within the scope of the complaint.

If the PSCO decides to carry out a more detailed inspection, the ship's master should be informed.

G) Detention of ships

PSC inspectors will not detain ships unless there is a serious breach of the requirements of the Convention, as the Convention clearly states that ships shall not be unduly detained or delayed. If a ship owner manages to prove that a vessel is unduly delayed or detained, compensation can be claimed. If a PSC inspector decides to detain a vessel:

- He will inform the flag State and he may invite a representative of the flag State to be present, if possible.
- He will inform the shipowner and seafarer's organization in port State.
- He may request the shipowner's representatives or seafarers' representatives to propose a plan of action for correcting the situation.
- Such plan of actions should contain an undertaking by the shipowner to facilitate the inspection of the ship by PSC officer in other ports in order to verify that the plan of action to rectify the non-conformities has been properly implemented.

MARPOL ANNEX – VI

Marine pollutants

Under MARPOL Annex VI followings are considered as marine pollutants:

- Ozone depleting substances
- Nitrogen Oxides
- Sulphur Oxides
- Particulate matter (mixture of solid particles and liquid droplets found in the air⁴⁶)
- Volatile organic compounds (applies to tankers only, regulated by port authorities)
- Emissions from ship's incinerators and
- Carbon oxides

Description of the documents required by Annex VI

A) SO_x Emission Compliance Certificate and Exhaust Gas Cleaning (EGC) System Technical Manual

MARPOL Annex VI requires to use fuel oil with a sulphur content of 0.5% m/m or less in outside emission control areas and within emission control areas it shall not be more than 0.10% m/m. If this cannot be complied with, MARPOL Annex VI allows to use an alternative compliance method with the approval of the Administration.

An exhaust gas cleaning (EGC) unit may be approved subject to periodic parameter and emission checks, or the system may be equipped with a continuous emission monitoring system⁴⁷. Ships are required to have this certificate and the manual if she is using such an EGC system.

B) Ship Energy Efficiency Management Plan (SEEMP)⁴⁸

There are three parts to a SEEMP as describe below, and this may form part of the ship's Safety Management System.

⁴⁶ United States Environmental Protection Agency, Particulate Matter (PM) Basics, <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics> (Accessed: 27/11/2025)

⁴⁷ Refer IMO, MEPC 68/21/Add.1 or the latest for further details

⁴⁸ Refer the IMO Resolution MEPC.346(78) or the latest for further details

Part I

The purpose of part I is to provide an approach to monitor ship and fleet efficiency performance over time and describe ways to improve the ship's energy efficiency performance and carbon intensity. This part applies to any ship of 400 GT and above. With the aim of increasing the energy efficiency on board and reducing carbon emissions, among other things, this part may address;

- Improved voyage planning
- Weather routing
- Just in time
- Speed optimization
- Optimized shaft power
- Optimized ship handling – Optimum trim, Optimum ballast, Optimum propeller and propeller inflow considerations, Optimum use of rudder and heading control systems (autopilots)
- Hull maintenances
- Propulsion systems
- Propulsions systems maintenance
- Water heat recovery
- Improved fleet management
- Improved cargo handling
- Energy management
- Fuel type

Part II

MARPOL Annex VI requires all the ships of 5,000 GT and above to collect certain data (Eg – Fuel oil consumption by fuel oil type, Distance travelled and Hours underway along with ship's particulars such as GT, NT, DWT, Power output, EEDI and Ice class) and report to the Administration or any organization duly authorized by it after the end of each calendar year. The purpose of part II is to provide a description of the methodologies that should be used to collect the data and the processes that the ship should use to report the data to the ship's Administration or any organization duly authorized by it. Part II of the SEEMP applies to any ship of 5,000 GT and above.

Part III

In accordance with the Annex VI of MARPOL, following ships of 5,000 GT and above are required to calculate the Carbon Intensity Indicators (CII):

- Bulk carriers
- Combination carriers
- Container ships

- Cruise passenger ships
- Gas carriers
- General cargo ships
- LNG carriers
- Refrigerated cargo carriers
- Ro-ro cargo ships
- Ro-ro passenger ships
- Tankers

CII to be calculated at the end of each calendar year and this is called as the ‘**attained annual operational carbon intensity indicator**’. This shall be reported to the Administration or any organization approved by it within three months after the end of the calendar year. The Administration or any organization approved by it will rate this attained annual operational CII as A, B, C, D or E indicating a major superior, minor superior, moderate, minor inferior, or inferior performance level.

A ship rated as D for three consecutive years or rated as E shall develop a plan of corrective actions to achieve the required annual operational CII. The SEEMP is required to review to include the plan of corrective actions, and this is what is to be included in the part III of the SEEMP.

C) International Air Pollution Prevention Certificate (IAPP certificate)

Any ship of 400 gross tonnage and above engaged in voyages to ports or offshore terminals under the jurisdiction of other Parties to the Protocol of 1997 shall be issued with an International Air Pollution Prevention Certificate⁴⁹ and the validity of the certificate is 5 years. This will be issued after an initial or renewal survey and is subjected to intermediate and annual surveys and will be endorsed after the surveys.

D) Statement of Compliance – Fuel Oil Consumption Reporting and Operational Carbon Intensity Rating

As mentioned above under the heading of Part II of SEEMP, once the data required is sent to the Administration or any authorized organization at the end of each calendar year, they will issue a ‘Statement of Compliance’ related to fuel oil consumption.

As mentioned above under the heading of Part III of SEEMP, at the end of each calendar year, applicable ships, shall calculate the attained annual operational CII over the previous 12-month period from 1 January to 31 December, using the data collected. Upon receipt of reported data and attained

⁴⁹ Refer IMO, FAL.2/Circ.133, MEPC.1/Circ.902, MSC.1/Circ.1646, LEG.2/Circ.4 or the latest for details

annual operational CII, the Administration or any organization duly authorized by it shall verify data and determine the operational carbon intensity rating of the ship, and, when appropriate, issue a Statement of Compliance related to fuel oil consumption reporting and operational carbon intensity rating to the ship.

E) Ozone-depleting substances record book

This not required to carry onboard when having permanently sealed equipment where there are no refrigerant charging connections or potentially removable components containing ozone-depleting substances.

Ships using ozone-depleting substances shall maintain a list of equipment containing ozone-depleting substances and these shall be delivered to appropriate reception facilities when removed from ships.

Ships having rechargeable systems that contain ozone-depleting substances are required to maintain an ozone-depleting substances record book (electronic formats are accepted⁵⁰) and it shall contain:

- recharge, full or partial, of equipment containing ozone depleting substances
- repair or maintenance of equipment containing ozone depleting substances
- discharge of ozone depleting substances to the atmosphere, deliberate and non-deliberate
- discharge of ozone depleting substances to shore reception facilities
- supply of ozone depleting substances to the ship

F) Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (NOx Technical Code) – Not required to carry onboard

The purpose of this Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines, is to specify the requirements for the testing, survey and certification of marine diesel engines to ensure they comply with the nitrogen oxides (NOx) emission limits as mentioned in the regulation 13 of Annex VI. This Code applies to all diesel engines with a power output of more than 130 kW which are installed, or are designed and intended for installation, on board any ship subject to Annex VI and to which regulation 13 applies⁵¹.

Regulation 13 of MARPOL Annex VI requires to control the emission of NOx from marine diesel engines, but, among other cases, this regulation does not apply to;

- marine diesel engine intended to be used solely for emergencies or
- solely to power any device or equipment intended to be used solely for emergencies or
- marine diesel engines installed in lifeboats intended to be used solely for emergencies

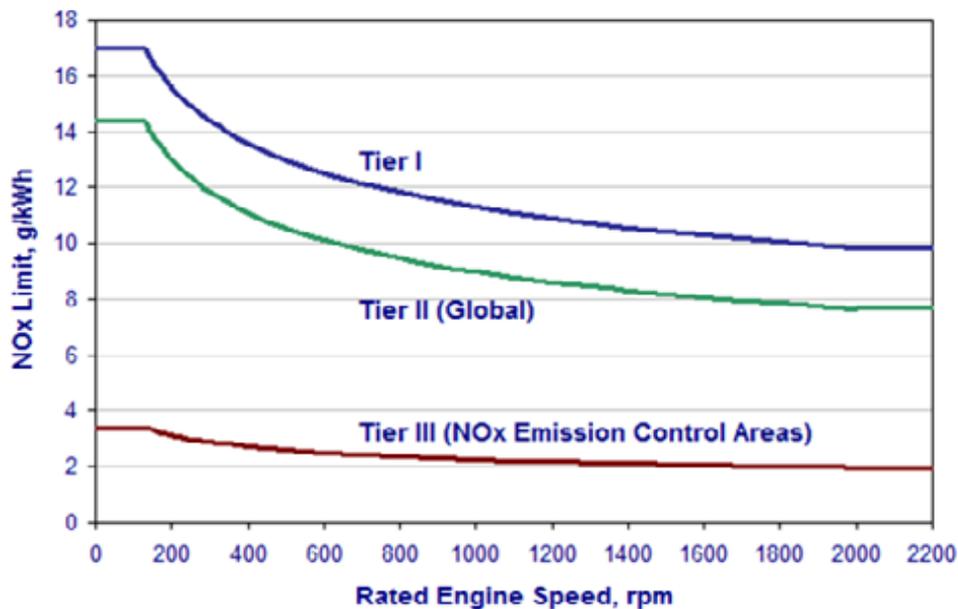
⁵⁰ Refer MEPC.312(74) of IMO or the latest for further details

⁵¹ IMO, NOx Technical Code (2008)

By Regulation 13, IMO's intention is to reduce the NOx emissions gradually, by making three tiers, namely, Tier I, Tier II and Tier III.

Tier	Installed Year	NOx emission
Tier I	Marine diesel engines installed on or after 1 st January 2000 and prior to 1 st January 2011	Initial reduction
Tier II	Marine diesel engines installed on or after 1 st January 2011	Reduced than Tier I
Tier III	Ships constructed on or after 1 st January 2016	Further reduction when operating in NOx Tier III Emission Control Areas.

The below graph illustrates the allowable NOx emissions from diesel engines⁵².



Among other things, this Code contains;

- NOx emission standards
- Approval procedures for family and group engine concepts (Engine family means photocopy engines which does not require any modifications when installing. Engine group means photocopy engine which may require small changes but does not result in exceeding NOx emissions)
- Procedures for NOx emission measurements
- Procedures for demonstrating compliance with NOx emission limits onboard
- Certification procedures of existing engines

⁵² DNV, Technical and regulatory news no.21/2015 – Statutory, Upcoming environmental regulations for emissions to air – IMO NOx TIER III, https://safety4sea.com/wp-content/uploads/2015/10/DNV-GL-IMO-NOx-Tier-III-2015_10.pdf (Accessed: 29/11/2025)

G) Logbook or electronic record book – nitrogen oxides emission

The tier and on/off status of marine diesel engines installed on board a ship which is certified to both Tier II and Tier III or which are certified to Tier II only shall be recorded in this logbook or electronic record book.

H) Fuel oil changeover procedure and logbook (record of fuel changeover)⁵³

Under MARPOL Annex VI a written change-over procedure is required to be onboard vessels which use high and low sulphur fuel oils. The procedure should outline how the change-over is to be undertaken as well as to show the time required for flushing the high sulphur fuel out of the system after the change-over of service tanks, and the calculation of hours before entering the ECA they start the change-over.

Before the ships enter an ECA, change-over from high sulphur to low sulphur containing a sulphur level that does not exceed 0.10% by mass must take place. This procedure is started by shutting down the consumption from the high sulphur service tank with the 3-way valve and supplying fuel from the low sulphur service tank instead. During the change-over process, the fuel in the service system will continuously be diluted by the low sulphur fuel. The duration for reaching the sulphur level of 0.10% can vary depending on the machinery fuel oil consumption, the volume of the service system, and the level of sulphur in the fuel.

All steps of the change-over procedure must be recorded in the Engine Logbook and Marine Sulphur Record Book during the changeover. All entries must reflect tank quantities, time of change-over and ship position. Additionally, the time of the ship's entry into and leaving the ECA with vessel position must be recorded.

I) Manufacturer's operating manual for incinerators

On ships constructed on or after 1st January 2000 or incinerators that is installed on board on or after 1st January 2000 shall be provided with a manufacturer's operating manual, which is to be retained with the unit, and which shall specify how to operate the incinerator within the limits of Annex VI of MARPOL.

⁵³ Skuld P&I, Fuel change-over procedure, <https://www.skuld.com/topics/ship/bunkers/fuel-change-over-procedure/> (Accessed: 29/11/2025)

J) Bunker delivery note

Bunker delivery notes of the fuel oil delivered onboard shall be kept on board in accordance with the requirements of MARPOL Annex VI.

K) Energy Efficiency Design Index (EEDI) Technical File

The EEDI is required only for new buildings. The term “new ship” is defined as a ship for which the building contract is placed on or after 1st January 2013; or in the absence of a building contract, the keel of which is laid, or which is at a similar stage of construction on or after 1st July 2013; or the delivery of which is on or after 1st July 2015.

- EEDI is a measure of CO₂ emissions per ton per nautical mile. Lower the EEDI, higher the efficiency of the vessel.
- This is mandatory on new ships of 400 GT or more.
- Actual EEDI of a vessel is called the “**attained EEDI**” and it is calculated by using IMO guidelines.
- The “**required EEDI**” is the EEDI that a vessel to be designed at the time of construction and it is provided by the IMO for various ship types and their tonnages.
- The “**Attained EEDI**” shall be **below or equal** to the “**required EEDI**”.
- "EEDI Technical File" is a document that contains the information necessary for the calculation of the attained EEDI and that shows the process of calculation.
- EEDI may be reduced by various methods such as advanced technologies, alternative fuels, deadweight increase, economical speed etc.

L) International Energy Efficiency Certificate (IEEC)

This is issued to ships of 400 GT or more after an initial survey. The survey shall verify that the ship’s attained EEDI is equal or less than the required EEDI and a SEEMP is onboard. IEEC is valid for the ship’s entire life, unless it becomes invalid due to a major conversion, a change of flag, or withdrawn from service.

M) Energy Efficiency eXisting ship Index (EEXI) Technical File

As mentioned above EEDI applies to new ships with the aim reducing greenhouse gas emissions. EEXI applies to existing ships. Similar to the EEDI technical file, EEXI Technical File contains the information necessary for the calculation of the attained EEXI and that shows the process of the calculation. The attained EEXI must be less than or equal to the required EEXI.

N) Technical File

Every marine diesel engine installed on board a ship shall be provided with a Technical File. The Technical File shall be prepared by the applicant for engine certification and approved by the Administration and is required to accompany an engine throughout its life on board ships⁵⁴.

A technical file is a record containing all details of parameters, including components and settings of an engine, that may influence the NO_x emission of the engine, in accordance with the NO_x Technical Code⁵⁵.

O) Record Book of Engine Parameters

When a diesel engine is designed to run within the applicable NO_x emission limit, it is most likely that within the marine life of the engine, the NO_x emission limit may be adhered to. The applicable NO_x emission limit may, however, be contravened by adjustments or modification to the engine. Therefore, an engine parameter check method shall be used to verify whether the engine is still within the applicable NO_x emission limit.

A record book of engine parameters is the document used in connection with the engine parameter check method for recording all parameter changes, including components and engine settings that may influence NO_x emission of the engine⁵⁶.

P) VOC Management Plan

This regulation only applies to tankers. However, this regulation also applies to gas carriers only if the types of loading and containment system allow safe retention of non-methane VOCs on board or their safe return ashore.

There are two aspects of VOC control within this regulation. In the first, regulations 15.1 – 15.5 and 15.7, control on VOC emitted to the atmosphere in respect of certain ports or terminals is achieved by a requirement to utilize a vapour emission control system (VECS). Where so required, both the shipboard and shore arrangements are to be in accordance with MSC/Circ.585 “Standards for vapour emission control systems”. A Party may choose to apply such controls only to particular ports or terminals under its jurisdiction and only to certain sizes of tankers or cargo types. Where such controls are required at particular ports or terminals, tankers not so fitted may be accepted for a period of up to 3 years from the implementation date. Where VECS is so mandated the relevant Party is to notify

⁵⁴ Refer FAL.2/Circ.133, MEPC.1/Circ.902, MSC.1/Circ.1646, LEG.2/Circ.4 or the latest for details

⁵⁵ Refer IMO Resolution MEPC.177(58) or the latest for further details

⁵⁶ *ibid*

IMO of that requirement and its date of implementation. A Party regulating tankers for VOC emissions shall submit a notification to IMO.

The second aspect of this regulation, regulation 15.6, requires that all tankers carrying crude oil have an approved and effectively implemented ship specific VOC Management Plan covering at least the points given in the regulation. Guidelines in respect of the development of these plans is given by resolution MEPC.185(59) and related technical information on systems and operation of such arrangements is given by circular MEPC.1/Circ.680⁵⁷.

⁵⁷ [https://www.imo.org/en/ourwork/environment/pages/volatile-organic-compounds-\(voc\)-%E2%80%93-regulation-15.aspx](https://www.imo.org/en/ourwork/environment/pages/volatile-organic-compounds-(voc)-%E2%80%93-regulation-15.aspx) (Accessed: 30/11/2025)

MERCHANT NAVY CODE OF CONDUCT⁵⁸

Merchant Navy Code of Conduct is made up with the consent of seafarer's unions and employer's organizations, and it sets out disciplinary rules, with regards to the standards of behaviour generally to be expected by all seafarers.

This Code has been agreed between Nautilus International, the National Union of Rail, Maritime and Transport Workers (RMT) and the UK Chamber of Shipping and approved by the Maritime and Coastguard Agency.

This Code is applicable on UK flagged ships only. But still, it is better to have a good knowledge of the same, since the other flag states also more or less have the same disciplinary rules onboard. A master is required to refer the flag state regulations and codes before taking actions with regards to behavioural measures of seafarers. Certain important areas from the Code are given below to have a better understanding of the Code.

Conduct in emergencies

In any emergency or other situation in which the safety of the ship or of any person on board or the marine environment is at stake, the Master, Officers and Petty Officers are entitled to look for immediate and unquestioning obedience of orders. There can be no exceptions to this rule. Failure to comply will be treated as among the most serious of breaches of discipline and may also warrant prosecution under the provisions of the Merchant Shipping Acts.

Gross misconduct (Paragraph - 7)

Acts of gross misconduct, examples of which are listed below, may, if appropriate in the circumstances and established to the satisfaction of the Master, lead to dismissal from the ship either immediately or at the end of the voyage and to dismissal from employment. This is separate from any other legal or disciplinary action which may be called for.

- i. assault (including threatening behaviour)
- ii. wilful damage to the ship or any property on board
- iii. theft (including attempted theft) or possession of stolen property
- iv. possession of offensive weapons
- v. persistent or wilful failure to perform duty
- vi. unlawful possession or distribution of drugs
- vii. conduct endangering the ship, persons or cargo on board, or the marine environment

⁵⁸ UK, Code of Conduct for the Merchant Navy, August 2013

- viii. combination with others at sea to impede the progress of the voyage or navigation of the ship
- ix. disobedience of a lawful order
- x. to be asleep on duty or fail to remain on duty, if such conduct would prejudice the safety of the ship, persons or cargo on board, or the marine environment
- xi. breach of company rules and procedures relating to alcohol, drugs or smoking.
- xii. failure to report to work without satisfactory reason or absence from place of duty or from the ship without leave
- xiii. interference with the work of others
- xiv. behaviour which seriously detracts from the safe and/or efficient working of the ship
- xv. conduct of a sexual nature, or other conduct based on sex affecting the dignity of women and men which is unwanted, unreasonable or offensive to the recipient
- xvi. behaviour which seriously detracts from the social well-being of any other person on board, including but not limited to bullying, harassment, intimidation and coercion
- xvii. causing or permitting unauthorised cargo, possessions or persons to be on board the ship or in parts of the ship where prohibited
- xviii. smuggling of any nature or breach of Customs' regulations, including but not limited to contraband, stowaways or refugees
- xix. demanding and/or receiving any commission or any other favour or benefit from any passenger, customer or supplier (excluding only unsolicited tips given by passengers for service provided, to the extent permissible under company rules)
- xx. deliberate misuse of a harbour pass or personal identity card.
- xxi. commission of a breach of a lesser degree listed in Paragraph 9 after warnings have been given in accordance with the procedures in Paragraph 8

Less serious misconduct (Paragraph - 8)

Breaches of a lesser degree of seriousness may be dealt with by:

- a) an informal warning administered at an appropriate level
- b) a formal warning by an Officer
- c) a written warning by a senior Officer
- d) a final written warning by a senior Officer or the Master.

When a warning other than an informal warning is given, the seafarer should be advised of the likely consequences of further breaches of discipline.

Paragraph – 9

Examples of breaches of the disciplinary rules where use of the Paragraph 8 procedure is considered appropriate are listed below.

- a) offences of the kind described at Paragraph 7, which are not considered to justify dismissal in the particular circumstances of the case
- b) minor acts of negligence, neglect of duty, disobedience and assault
- c) unsatisfactory work performance
- d) poor time keeping
- e) stopping work before the authorised time
- f) offensive or disorderly behaviour.

Immediate suspension (Paragraph – 10)

In serious cases the Master may suspend a seafarer from duties and take such action to preserve the safety of the ship, persons or cargo on board, or the marine environment, as he considers appropriate. In such cases the Master may require the seafarer to be disembarked and repatriated as soon as practicable. Shipboard procedures may not then apply. In such an event, disciplinary action will be initiated ashore by a shore manager.

Initial meeting/Informal Warning (Paragraphs 11 to 14)

- 11) A seafarer who is alleged to have breached the disciplinary rules will be called to a meeting with a Petty Officer or Officer or the Master as appropriate.
- 12) At the meeting the seafarer will be told of the alleged breach, given the opportunity to give his/her explanation and say whether or not s/he admits it.
- 13) If the Petty Officer, Officer or Master is satisfied that no further action is called for or that the breach needs no more than an Informal Warning, s/he will proceed accordingly, and the matter will then be regarded as resolved.
- 14) If the Petty Officer, Officer or Master decides that formal action is required the seafarer will be advised accordingly. In the discretion of the Petty Officer, Officer or Master, the seafarer may be suspended from duty.

Formal action (Paragraphs 15 to 18)

- 15) An Officer or the Master will investigate the allegation. Written statements may be taken from witnesses. The investigation should be completed without undue delay.

- 16) If, following the investigation, the Officer or Master concludes that no further action is called for, or that the breach needs no more than an informal warning, s/he will proceed accordingly, and the matter will then be regarded as resolved.
- 17) If the Officer or Master concludes that formal disciplinary action is called for:
 - a) If there is no current prior warning and the breach is considered to be one of a lesser degree, the Officer or Master will undertake a disciplinary hearing or refer it to an appropriate Officer for action.
 - b) If there is a current prior warning or if the breach is considered to be sufficiently serious to warrant action at senior Officer level or above, a senior Officer or the Master will undertake a disciplinary hearing.
 - c) If the breach is considered to be gross misconduct, the Master will undertake a disciplinary hearing.
- 18) The seafarer will be given written notice of the disciplinary hearing. This will specify:
 - a) date, time and place of the hearing;
 - b) the conduct allegedly committed;
 - c) the disciplinary rule(s) allegedly breached;
 - d) the potential penalty if a breach of discipline is substantiated and
 - e) the seafarer's rights at the hearing as in paragraph 19.

It will be accompanied by copies of any relevant statements.

The disciplinary hearing (Paragraphs 19 to 26)

- 19) At the hearing the seafarer may:
 - .1 be accompanied at the hearing by a work colleague, or trade union official if available
 - .2 call relevant witnesses
 - .3 question witnesses on their evidence and
 - .4 make any statement or comments on the evidence, in response to the alleged breach the appropriate penalty if the breach of discipline is substantiated.
- 20) At any hearing the seafarer will be invited to say whether or not s/he admits the alleged breach of discipline.
 - a) If s/he admits it, the hearing will move immediately to consideration of penalty.
 - b) If s/he does not admit it, the hearing will consider relevant evidence including any presented by the seafarer.
- 21) In exceptional circumstances, it may be appropriate to conduct the hearing ashore.
- 22) If in the course of the hearing it appears to the person conducting it that:
 - a) the matter warrants more serious action than originally envisaged, the hearing will be adjourned, and the matter referred to more senior level for action. A new notice of

disciplinary hearing will then be issued to the seafarer detailing the matters in paragraphs 18 (a) to (d);

b) the matter warrants less serious action than originally envisaged, the hearing may be adjourned, and the matter referred to a lower level for action.

23) After the hearing the person conducting it will give his/her determination. S/he will say whether or not s/he finds a breach or breaches of discipline to have occurred and, if so, specify the breach or breaches and the appropriate penalty.

24) The penalties which may be imposed are as follows:

Master	Dismissal from ship Final warning Written warning Formal warning Informal warning
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Senior Officer	Final warning Written warning Formal warning Informal warning
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Officer	Formal warning Informal warning
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Petty Officer	Informal warning
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25) The seafarer will be given written notification of the outcome of the hearing and the reasons for the decision as soon as practicable following the hearing. The seafarer should be told how long any warning will remain current.

26) The seafarer will be given a copy of any entries made in the ship's Official Logbook.

INSPECTIONS BY PSC AND P & I Clubs

Please refer the “Guide for chief mate’s oral examinations” because most of the survey preparations are addressed in detail in that book. Areas which are not covered in that book are addressed under this topic.

A) PSC inspections

Port State Control Officers (PSCO) carryout ‘inspections’ and not ‘surveys’ or ‘audits’. Any condition found not to be in compliance with the requirements of a relevant convention is known as ‘deficiency’, not as ‘observation’ or ‘NCR’ or ‘major NCR’. A PSCO may carry out inspections to ensure the compliance with the following Conventions:

- SOLAS 1974 and Protocol 1988
- Load line convention 1966 & Protocol 1988
- MARPOL’73 as amended
- STCW’78 as amended
- International Tonnage Convention 1969
- International Anti-Fouling Convention 2001
- COLREG 1972
- CLC 1969 & Protocol 1992
- CLC (Bunker) 2001
- BWM 2004
- Wreck removal Convention 2007 and
- MLC 2006

Important points to note⁵⁹

- PSCO should present his identity document if it is asked by the master.
- "**Clear grounds**" to conduct a more **detailed inspection** include but are not limited to:
 - absence of principal equipment or arrangements;
 - certificate/s are invalid;
 - documents required by conventions are not onboard. are incomplete, are not maintained or are falsely maintained;
 - if the PSCO observes that serious hull or structural deterioration or deficiencies;
 - master or crew is not familiar with essential shipboard operations;
 - key crew members are not able to communicate;
 - emission of false distress alerts not followed by proper cancellation procedures; and

⁵⁹ IMO, Procedures for port state control, 2023

- receipt of a report or complaint containing information that a ship appears to be substandard.
- If the PSCO has **clear grounds for carrying out a more detailed inspection**, the master will be informed, and the master may;
 - Contact the flag or
 - RO depending upon who has issued the certificate and invite their presence onboard.
- If the **ground for detention is due to accidental damage**, no detention order will be issued, provided that:
 - Reports are made as appropriate to the Flag State or RO;
 - Port State is informed before entering the port;
 - Appropriate remedial action being taken to the satisfaction of the Port State;
 - Deficiencies which are clearly hazardous to safety, health or environment have been rectified and Port State is informed.
- A ship will be regarded as **substandard** when:
 - principal equipment or arrangement required by conventions are not available;
 - equipment or arrangement are not complying with relevant specifications of the conventions;
 - there is substantial deterioration of the ship or its equipment;
 - the crew are insufficient of operational proficiency, or not familiar of essential operational procedures; and
 - insufficiency of manning or insufficiency of certification of seafarers.
- If the **rectifications cannot be carried out before departure for DETAINABLE deficiencies**, the port State authority may allow the ship concerned to proceed to the nearest appropriate repair yard available, as chosen by the master and agreed to by that authority, provided that the conditions agreed between the port State authority and the flag State are complied with. Such conditions will ensure that the ship should not sail until it can proceed without risk to the safety of the passengers or crew, or risk to other ships, or without presenting an unreasonable threat of harm to the marine environment. Such conditions may include confirmation from the flag State that remedial action has been taken on the ship in question. In such circumstances the port State authority should notify the authority of the ship's next port of call, the flag State, and Recognize Organisation.
- If the PSCO decides to detain a vessel, the master or the company has a right to appeal.

Closing procedure of identified deficiencies

- The closing procedure depends upon the MOU (ie Tokyo MOU, Paris MOU). These procedures are available in the websites of the relevant MOUs or can get information from the PSCO himself.
- After the inspections, the PSCO will issue an inspection report.
- This inspection report will contain;
 - Vessel particulars;
 - Date of inspection;
 - Codes or types of deficiencies. MOUs uses codes for deficiencies. Masters are not required to remember these codes. Meaning of the codes can be found by the PSCO and from the website of the particular MOU;
 - Applicable Convention references,
 - When the deficiency to be closed etc.
- The inspection record shall be kept onboard in accordance with the vessel's filing system.
- Minor deficiencies may be rectified during the inspection. Even though the matter is rectified, minor deficiency also could be included in the inspection report, but it will be indicated as closed.
- In accordance with the regulations of AMSA, a deficiency raised cannot be closed unless it is inspected by their own inspectors or member of Tokyo MOU PSCO.
- Some port's PSCO may accept remote surveys for detained vessels (remote survey means conducting surveys without the surveyor's presence onboard) some port States (like AMSA) may not accept.

If no deficiencies found

- The PSCO will issue an inspection report with zero deficiencies.
- This report shall be kept onboard in accordance with the ship's filing system.
- Even there were no deficiencies, still the master has to inform the company in accordance with the company's reporting procedure.

Procedure of appealing against a detention order

In accordance with the provisions of the Memorandum, the company of a ship or its representative will have a right of appeal against a detention taken by the Authority of the Port State. The Port State control officer should properly inform the master of the right of appeal. The shipmaster should be advised to use the official national procedure if they wish to appeal against a detention order⁶⁰.

⁶⁰ <https://www.tokyo-mou.org/inspections-detentions/detention-procedures/> (Accessed: 18/02/2026)

Areas of inspections by PSCOs

A vast area may be covered during PSC inspections. Therefore, it is very difficult to list down each and every item that they may check. No special preparations are required if the vessel is maintained in accordance with the international standards and the company SMS. The following provides the areas that a master needs to consider for the upkeep of a vessel to avoid any deficiencies.

With reference to certificates:

- All the statutory certificates are available and valid.
- Crew & officers are appropriately qualified in accordance with the minimum safe manning certificate and having Certificates of Equivalent Competency (CEC) as required.
- Medical fitness certificates for the staff are available and valid.
- Type specific ECDIS certificates available for deck officers if the vessel is ECDIS compliant.
- Service and test certificates for LSA, FFA and other equipment (such as for the GMDSS, AIS, VDR, LRIT etc.) are available.

With reference to documents

- Record of former PSC inspections and evidence of taking corrective actions.
- Updated and corrected deviation card available.
- The latest passage plan and charts used may be inspected to ensure recommended practices are used.
- Work and rest hours are complied with, recorded and they are not contradictory to other documents.
- Drills conducted in accordance with the international and flag state regulations.
- Official logbook, deck logbook, port logbook, bell book, GMDSS log, compass error log, oil record book/s, engine logbook, garbage record book and ballast water record book etc. are completed correctly.
- PMS updated.
- Evidence of risk assessments carried out.
- Complaint procedures onboard.
- Evidence of periodical inspections of accommodation, food and drinking water, galley, food/drinking water storage areas and food/ handling equipment are available.
- Manuals such as training manuals, stability book, loading manual, cargo securing manual, SOPEP, SMPEP, damage stability book, damage control plan, grain loading manual, ship construction file, SEEMP, coating technical file, emergency towing procedures etc. available and updated where necessary.

- Operating instructions of emergency fire pumps, fixed CO₂ system, fixed foam system, lowering of lifeboat, lifeboat engine, and emergency steering change over etc. are posted and legible.
- Fire plan and LSA plan are updated and contains IMO symbols as appropriate.

With reference to maintenance

- Required charts and publications available and updated.
- Bridge equipment, back-up systems and GMDSS battery room in order.
- Windless and the mooring equipment in order.
- Fixed CO₂ systems and fixed foam firefighting systems are in good working order.
- Fire pumps and the emergency fire pump to be in good working order.
- Fire dampers, quick or self-closing valves, remote control systems are in good working condition.
- Lifeboat and the associated equipment to be in good working order.
- Emergency generator is working in order and make sure it will be started within 45 seconds automatically.
- LSA and FFA equipment are available in appropriate places.
- Markings on the LSA, FFA, pipelines, vents, dampers, windless, mooring winches, sounding pipes etc. must be clearly legible.
- Cleanliness of accommodation, bathroom/toilets, galley and deck.
- Accommodation air conditioning and heating must be in good working condition.
- ISPS equipment are available and maintained.
- Open and closed positions of the fire damper are marked and legible.
- Ensure sufficient illumination is available and emergency lighting is in good order.
- Deck isolating valve on the fire main is in working order.
- Portable firefighting systems are serviced and inspected.
- Hatch covers and weather tight closing devices are working in order.
- Load line marks to be clearly visible.
- Deck, hull, cranes, derricks, railings, gangway etc. are maintained in good order.
- Safety signs and other marks are clearly legible in the deck area.

Officers and crew competency

- Master to have good knowledge about SMS, overriding authority, flag state regulations and company regulations and guidelines.
- Officers are competent in operating bridge equipment and engine equipment.
- All the staff members are well updated with their:
 - Duties with reference to SMS,
 - Duties during emergencies,

- Alarm signals,
 - Name and the contact numbers of the DPA and
 - Name and the contact numbers of the CSO.
- Ensure all are competent in carrying out drills and ensure that they are very thorough with:
 - lowering of lifeboats,
 - starting of lifeboat engines,
 - wearing BA set and the fireman's outfit,
 - starting of emergency fire pump,
 - emergency steering change over procedure,
 - starting of emergency generator and
 - operation of fixed CO₂ and foam fire existing systems.
 - Training and drills conducted in accordance with the ship's drill matrix.
 - Safety committee meetings held and complains raised during the meetings are dealt with.

With reference to engine room

- The engine record books and oil record books are properly completed.
- Oily water separator and the associated equipment shall be in good working order.
- Cleanliness of the engine room.
- Ensure the illumination in order.
- Engine technical files available.
- Generators and related equipment are tested and working in order.
- Spray shields to be available for high pressure fuel lines.
- The fixed freshwater sprinkler systems are working in order.
- Safety and operational instruction posters are available and clearly legible.

Compliance with conventions and codes

Finally, vessel, equipment and documents shall be available and maintained as required by the applicable conventions and codes for the vessel.

B) Condition surveys

Conditions surveys are carried out by P & I clubs to ensure the vessels in the club are complying with the standards of the club. The occasions of the condition surveys may differ from club to club. West P & I club may carryout condition surveys in the following cases:

- On vessels presented for entry which are 10 years of age or more.

- Vessels already entered with the Club may be surveyed at any time, particularly in the event of claims caused by technical defects.
- A condition survey may also be triggered by a casualty, a port state control detention or a flag state intervention.

The surveyor will conduct a comprehensive survey to ascertain the physical condition of the vessel and the effectiveness of the onboard management. If deficiencies are found, the surveyor will provide the Master and/or owners' representative with a list of items in need of rectification. The surveyor will forward a copy of the list to the Club with his initial report, following which action may be taken by the Managers. If repairs are necessary, the Managers may require a follow-up survey once they have been completed⁶¹.

⁶¹ WEST P&I, Condition surveys, <https://www.westpandi.com/loss-prevention/condition-surveys/> (Accessed: 30/11/2025)

NAVIGATIONAL SAFETY & SAFE PRACTICES

A) Ensuring a safe passage

Before departure

- Carryout a risk assessment.
- Ensure the next port is:
 - within the range of ports that the vessel is chartered for (if she is chartered),
 - within the area she is constructed to sail, and she is insured for,
 - the port of discharge is as stated in the bill of lading and
 - the port is a safe port for the vessel.
- Decide the route considering all the available information.
- Get the distances (manoeuvring distances and sea passage distances), weather ahead etc.
- Make sure the charts, publications and flags are available.
- Ensure sufficient amounts of bunkers available considering the:
 - voyage distance
 - required speed to be maintained
 - number of days and distances to cover through ECA areas and non-ECA areas
 - fuel consumption
 - amount of reserves to be maintained
 - bunkering enroute and
 - weather ahead
- Ensure enough fresh water and provisions available considering the:
 - voyage distance
 - weather ahead
 - amount of freshwater production onboard
 - availability and possibility of supplies during the passage
- Ensure sufficient amounts of spares are available.
- Ensure she is not going to exceed load line marks throughout the passage.
- Calculate the departure and arrival draughts and check whether there are any draught restrictions.
- Ensure the vessel has sufficient stability at the time of departure, during the passage and during the arrival port.
- Consider of areas available for exchanging ballast water if she is expecting to do so.
- With regards to passage planning:
 - Make sure the voyage charts and publications are corrected up to date.
 - Make sure safe passages are plotted (berth to berth) with no go areas, margins of safety, wheel over points, parallel indexes, abort points, contingency anchoring areas, drifting areas and the passages are complying with the international and local regulations.

- Ensure sufficient under keel clearances and safe distances from navigational dangers are available throughout.
 - Ensure the tidal heights and rates are calculated at critical points.
 - Make sure sufficient data is available on the bridge and communication channels, mediums are selected for the purpose of reporting throughout the passage.
 - Decide when to adjust clocks if there is a time difference between departure and arrival ports.
 - Debrief the officers about the passage.
- Just before departure ensure:
 - to carry out a risk assessment.
 - appropriate orders are issued for a safe departure.
 - the watchkeeping personal who will be utilized during departure and after departure are well rested.
 - the latest weather reports are available and check the weather ahead.
 - to check the departure draught and departure condition of stability to ensure that they are the same as predicted. If not the same, reconsider of available draught restrictions and seaworthiness during the passage.
 - to try out the bridge controls (departure checklist).
 - That the all people are onboard.
 - the expected amounts of cargo is loaded / discharged, cargo related documents are completed and all the departure documents are available onboard.
 - to confirm the information relating to the IMDG cargo is readily available on the bridge so that they can be used in an emergency.
 - all watertight doors are closed, cargo secured, stowaway searches are carried out and vessel is ready for departure.
 - that all the stations are manned with sufficient number of people
 - Master / pilot exchange procedure to be carried out. Inform all the stations, the agreed departure manoeuvring procedure.

During departure and during the passage ensure:

- the required departure reports are sent.
- to monitor the vessel's progress is complying with the agreed procedure with the pilot.
- the pilot is discharged safely, and all mooring stations are secured for sea.
- the security requirements are complied with.
- decide the time of BOSP and inform engine room as well.
- inform the time of changeover of con to OOW.
- decide whom to be utilized and number of people required for watchkeeping while passing critical points such as TSS, high traffic density areas, pilot boarding, entering narrow areas etc.

- to calculate ETAs at critical points and inform the engine room as well to ensure sufficient number of rested watchkeeping personal are utilized.
- to consider of contingency plans available in case of steering gear, main engine, electrical failure etc. while navigating in critical areas.
- to consider of maintaining a good situational awareness and it may depends upon the:
 - Cultural differences
 - Language barriers
 - Environmental conditions
 - Fatigue
 - Onboard workload
 - Experience
- reports are made as required.
- to check the weather ahead daily.
- to monitor the stability condition throughout the passage. The rolling period of a vessel will give a good indication of the GM of a vessel.
- to exchange ballast water if required. Prior starting ballast water operations consider the time that you are going to spend, methodology of ballast water exchange, stability for worst case scenarios, bridge visibility and the weather condition during such period.
- Appropriate orders are issued for daily operations.

When arriving ensure:

- to carry out a risk assessment.
- to comply with local regulations.
- the arrival documents (port papers) are prepared/sent.
- the cargo holds / tanks are ready to receive cargo, if going for loading.
- to check all arrival charts are ready with the latest information received from the agents & local authorities, radar mappings are ready etc.
- to decide when the engines to be ready, the time of master's presence on the bridge and issue orders to the OOWs appropriately.
- to check the local weather conditions, currents, tidal heights and consider whether amendments to the existing plan is required.
- draught restrictions are complied with.
- to send ETAs to the pilot/port.
- appropriate notices are given to engine room.
- pilot boarding position, time & sides are confirmed.
- to communicate the time of the con change over to OOW.
- to decide when the EOSP is going to be.
- try out engines astern.

- to confirm the bridge equipment are tried out and complied with the arrival checklist.
- to confirm that power is available for bow thrusters, stern thrusters, windless and mooring winches.
- to prepare both anchors ready for letting go.
- all stations are properly manned, and communications tested.
- to decide safe speeds at different stages.
- tugs, pilots, anchoring and berths are available before passing abort points.
- to consider of contingency plans.
- to send NOR as appropriate if required by charterers.
- to take the pilot safely.
- master / pilot exchange procedures to be complied with.
- to brief the bridge / engine watchkeepers and other personal at the stations about expected berthing or anchoring procedure.
- to monitor the vessel's progress along the passage is complying with the agreed procedure with the pilot.
- to check the safety of the berth (fenders etc.) and decide the final number of mooring lines required depending upon the size of the vessel, weather condition etc.
- to send reports as appropriate.

B) Ice navigation

General precautions to take when preparing a vessel for winter areas

- Carryout out a risk assessment, ensure the vessel is ice-classed appropriately and the vessel is ready for winterization along with owners and/or charterers.
- To avoid risk of damage to ballast & freshwater tanks due to freezing, the usual practise is to keep the tanks not more than 90% full to allow for expansion. Usually when the temperature of a liquid is increased, the volume will be increased to a certain extent. But the water acts differently when the temperature is increased. If the temperature of a sample of water (which is at 0° C) is increased, the volume will be reduced from 0° C to 4° C, there after the volume will be increased like other liquids. Due to this reason, if the temperature of water which is at 30° C is reduced, from 30° C to 4° C the volume will be decreased and from 4° C to 0° C, the volume will increase. If the tanks are kept full, this increase of volume may create structural damages.
- Keep a void space in freshwater tanks in the lifeboats for expansion. Keep additional fresh water ready inside the accommodation and assigned crew to carry them into the lifeboats in an emergency.
- Additional fuel, stores and fresh water may require due to delays that may encounter during ice navigation.
- Need to have enough de-icing salt.

- Ensure the search lights are working in order.
- Ensure the crew are supplied with warm clothing.
- Add anti-freeze to lifeboat engine cooling systems.
- Make sure the hot water system for the bridge windscreen is working in order and keep ready de-icing liquids or spray cans.
- Additional shovels, scrappers and crow bars may be required to remove ice on deck.
- Keep the fire lines running or drain it completely.
- Do not keep the cargo lashings and wires of cargo gears too tight as they may break due to contraction.
- Ensure the heaters inside the accommodation are working in order.
- May require to keep running the hydraulically operated equipment such as mooring equipment to avoid freezing.
- Add anti-freeze for PV valve on tankers.
- Make sure to keep the water seals of the scrubber and deck water seal warm on tankers.
- Ensure anchors and it's arrangement ready for immediate anchoring.
- Cover all mooring ropes and deck machinery.
- If ice accretion on deck occurs, check the rolling period frequently and calculate the GM. This is important to ensure that she is not coming to a negative stability condition.

General Preparations with regards to safety of navigation

- Watch keeping personnel should be aware of the dangers, problems that may encounter and safety precautions to be observed during ice navigation.
- When navigating through ice, speed should be reduced to minimum but not too slow & not too fast.
- Keep engines ready for manoeuvring all the time (at berth, anchorage and at sea).
- Keep additional personnel to keep visual lookouts and may need to engage hand steering at short notice.
- Keep ready the search lights.
- Try to collect more information with regards to ice.
- Give a wide berth to ice bergs.
- Enter ice at right angles.
- Protruding log tubes must be taken in before entering ice.
- If possible, move with the movement of ice, without moving against it.

Navigation through Northern Sea Route (NSR)

The Northern Sea Route is a shipping lane officially defined by Russian legislation between the Atlantic Ocean and the Pacific Ocean specifically running along the Russian Arctic coast from

Murmansk on the Barents Sea, along Siberia, to the Bering Strait and Far East. The entire route lies in Arctic waters and within Russia's exclusive economic zone. Parts are free of ice for only two months per year⁶². Following guidelines are from 'North Sea Route Navigation – Best Practices and Challenges'⁶³

- In the Northern Sea Route there are recommended routes, but the actual passage may differ depending on the current patterns of ice. Therefore, need to be cautious about the UKC as the depths in certain areas may not have been subjected to recent multibeam hydrographic survey using modern equipment.
- Magnetic compasses can be unreliable in the Arctic the higher the latitude reached. Gyro compasses work effectively to around 70⁰ latitude and then becomes unreliable due to the lack of effectiveness of speed control errors. Because the NSR reaches latitudes of at least 78⁰, ships operating in the Arctic are normally fitted with GPS or GLONASS compasses as they are more reliable at higher latitudes.
- GPS coverage is available in the NSR region, but it is recommended that ships carry both a GLONASS satellite receiver and the GPS units.
- Some pack ice features can be difficult to interpret on radar. A 3 cm X-band radar gives better detection and clarity than a 10 cm S-band radar.
- It may be beneficial for ships to also be equipped with an ice radar.
- In addition to radars, infra-red cameras can be used for ice detection. These are particularly useful if the transit is at night or visibility is restricted.
- When transiting in a convoy, or with an icebreaker in the close attendance, clear communications between the icebreaker and escorted ships are essential. Searchlights, i.e. Suez Canal lights or ice lights, should be used to help monitor the distance between ships in a convoy.
- It is the NSR Administration (Russian) who decides whether an NSR transit requires the use of an icebreaker by referring to the following:
 - Ship condition and construction
 - Ice Class

⁶² SAFETY4SEA, 2022, Do you know what the Northern Sea Route is?, <https://safety4sea.com/cm-do-you-know-what-northern-sea-route-is/> (Accessed: 04/12/2025)

⁶³ OCIMF, 2017, North Sea Route Navigation – Best Practices and Challenges, <https://www.ocimf.org/document-library/94-northern-sea-route-navigation-best-practices-and-challenges-1/file> (Accessed: 26/11/2025)

- Cargo categories
 - Current and anticipated ice conditions for the transit
 - Experience of the shipboard personnel
- Ice massifs are variable accumulations of pack or very close pack ice that cover hundreds of square kilometres. Ships should evaluate the possibility of taking additional ballast in order to increase draught, prevent damage to the propeller by ice massifs.
 - Ships should at all times try to navigate in the channels created by the icebreaker.
 - Inmarsat satellite system may become unreliable in latitudes above 70° N, and between 86° E to 120° E longitudes. It is essential that ship to shore communications are maintained throughout the transit and that emergency communications are functional.
 - The satellites for iridium phones are in a low Earth orbit and give good coverage in high latitudes.
 - A contingency plan should be in place in case the GMDSS system, becomes unavailable for short periods of time. The contingency plan should include an alternative means of receiving ice, weather and navigational warnings, e.g. from an ice breaker.
 - Following should be checked before transiting the NSR
 - Test of communication equipment.
 - Test of deck lighting and projectors.
 - Operational test of navigational equipment.
 - Operational test of bridge windows heating and clearing systems.
 - Operational test of horn heating system.
 - Operational test of equipment heaters (in steering gear room, control equipment, electric motors, radar scanners, radar gear box).
 - Lifeboat and davit readiness.
 - Deck lines liable to freeze are drained dry.
 - Sufficient amount of salt, sand and equipment to remove snow and ice onboard for the anticipated voyage.
 - FFA and LSA are protected from low temperatures, portable water normally stored in the lifeboats should be removed and placed in a heated compartment close by unless the lifeboat interior is kept heated.
 - Continuous steam supply is available on deck, while ensuring that any deadlegs are drained to prevent freezing.
 - Ventilation to interior spaces has been reduced to prevent outside air from coming into direct contact with inside equipment.
 - Switch to lower sea chest and operate steam injector if provided.

- When fitted, the Pressure Vacuum Breaker (PV Breaker) is checked for correct level of antifreeze and that steam is supplied to the deck water seal.
- Deck hydraulic systems free of water/moisture.

Reports to be made on encountering ice

On encountering air temperatures below freezing point, that are associated with gale force winds and causing severe ice accumulation on ships, the master is obliged under SOLAS to send a report to the ships in the vicinity and to the nearest coast station covering;

- Air and sea temperatures;
- Force and direction of wind;
- Position of the ship; and
- UTC time and date of observation.

The masters of every ship which meets with dangerous ice, are required to report the following information,

- The kind of ice
- Position of ice
- The time and date in UTC of the last observation

Pre-warnings of the presence of ice

- Sea and swell lower than expected for the wind speed may indicate the presence of significant ice to windward.
- Animals and or birds far from land may indicate the presence of large ice sheets.
- When steaming up wind, small pieces of ice may forewarn of larger formations to windward.
- When steaming down the wind large ice formations may be approached directly without forewarning.

The navigational errors that you may encounter

- Charts might be based on surveys which are old and unreliable. Electronic charts which can be based upon old paper charts.
- GPS is reliable, provided the correct datum is applied. But, may encounter errors due to tropospheric delays and ionospheric refraction in the auroral zone.
- Radar should be used with caution as ice may significantly change the effective coastline and on the other hand, ice is not a good reflector.
- Radar scanner may become frozen.

- Ice particles on the radar scanner will reduce the transmitting & receiving pulse energy.
- Visual fixes with identified objects are the best.
- Light colours of navigational aids may be affected by ice.
- Light sectors & ranges may be affected by ice. Sometimes it may be totally obscured.
- Gyro compass errors may occur due to large course & speed alterations.
- Ice on the compass will make taking bearings difficult.
- After 70° latitude, gyro is not reliable. Above 70° latitude, the magnetic compass will not settle unless the ship remains on the same heading for a prolonged period. These problems can be eliminated by referring to the 'course over ground' on the GPS.
- Echo sounder may not give correct reading due to false echoes.
- Protruding logs are not usable as they are withdrawn but flush mounted electro-magnetic logs and Doppler logs are least vulnerable.
- Radio communications may be difficult due to ice formation on the aerials.
- Buoys may be moved or removed in the ice seasons.
- Stars of below 10° of altitude are the best for celestial navigation.

The actions to be taken by vessels beset

- Hoist NUC signals
- Try to free by:
 - going ahead and astern at full power while alternating the helm from port to starboard, which has the effect of levering the ice aside, or
 - by listing / trimming the vessel by means of transferring oil/ballast water or ballasting and de-ballasting. Calculate the maximum lists and the trims that may encounter before attempting this since she may capsize after freeing from ice if it is excessive.
- Engines should be kept running slowly to keep the propeller clear.
- Seek the assistance of an ice breaker immediately.

Anchoring in ice areas

It is not advisable to anchor in ice areas except in emergencies. If, anchoring is extremely necessary, use minimum amount of cable and ensure the windless power is available, to heave up the cable. Keep the engines running slowly to avoid freezing.

Reversing engines in ice areas

This is also dangerous and should be done only when it is extremely required since it exposes the rudder and the propeller towards ice. If happen to do so, engines to be used only on dead

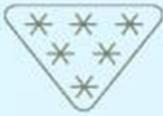
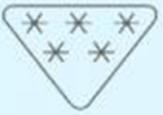
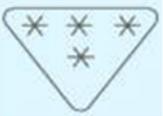
slow stern while keeping the rudder at amidships. The rudder could be damaged easily, if the rudder is hit against ice while in an angular position.

C) Category Zone of Confidence (CATZOC)

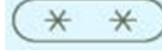
On old charts there was a diagram called as ‘Source data diagram’ which could be used to gain an idea about the accuracy of the information on the chart, specially, the depth information. This was very informative specially going into remote areas of the world. But, the problem with the Source data diagram’ is that, no information with regards to the accuracies could be obtained. This problem is solved by CATZOC.

Category Zone of Confidence (CATZOC) values can be used to highlight the accuracy of data presented on charts. The following table outlines the **position accuracy** (of charted objects), **depth accuracy** and **seafloor coverage** for each ZOC (Zone of Confidence) value to help you manage the level of risk when navigating in a particular geographical area⁶⁴.

Refer the original document which can be found in the above web address for further details and information regarding the footnotes.

ZOC ¹	Position accuracy ² (m)	Depth accuracy ³ (m)	Seafloor coverage	Typical survey characteristics ⁵	Symbol
A1	+/- 5 m + 5% depth	= 0.50 + 1% ^d	Full area search undertaken. Significant seafloor features detected ⁴ and depths measured.	Controlled, systematic survey ⁶ high position and depth accuracy achieved using DGPS or a minimum three high quality lines of position (LOP) and a multibeam, channel or mechanical sweep system.	
A2	+/- 20 m	= 1.00 + 2% ^d	Full area search undertaken. Significant seafloor features detected ⁴ and depths measured.	Controlled, systematic survey ⁶ achieving position and depth accuracy less than ZOC A1 and using a modern survey echosounder ⁷ and a sonar or mechanical sweep system.	
B	+/- 50 m	= 1.00 + 2% ^d	Full area search not achieved; uncharted features, hazardous to surface navigation are not expected but may exist.	Controlled, systematic survey achieving similar depth but lesser position accuracies than ZOC A2, using a modern survey echosounder ⁵ , but no sonar or mechanical sweep system.	

⁶⁴ Zones of Confidence (ZOC) Table, Hydrographic Office, UK, <https://assets.admiralty.co.uk/public/documents/2023-03/CATZOC%20Table.pdf?VersionId=bIXaxNbUxMMRQMujjQV5bO4do3EzsbFj> (Accessed: 05/12/2025)

C	+/- 500 m	= 2.00 + 5%d	Full area search not achieved, depth anomalies may be expected.	Low accuracy survey or data collected on an opportunity basis such as soundings on passage.	
D	Worse than ZOC C	Worse than ZOC C	Full search not achieved, large depth anomalies expected.	Poor quality data or data that cannot be quality assessed due to lack of information.	
U	Unassessed - The quality of the bathymetric data has yet to be assessed				

CATZOC Symbols

The symbols used on ENC charts to indicate the ZOC are as below;

The greater the number of stars that appear in the symbol, the greater the level of accuracy for that area.

Five or Six stars show a good level of accuracy in the source data. Four stars shows only medium accuracy, this means that the positional accuracy or seafloor coverage is not guaranteed.

Two and Three stars signify low accuracy survey data. This can mean that the original survey data is very old or was collected from an unreliable data source such as non-survey vessels, or maybe soundings that were collected on passage, indicating the seafloor coverage was low. Poor data for seafloor coverage would mean that seafloor features not shown on the ENC may reduce the indicated sounding by up to 10%⁶⁵.

Application of CATZOC information to your passage plan⁶⁶

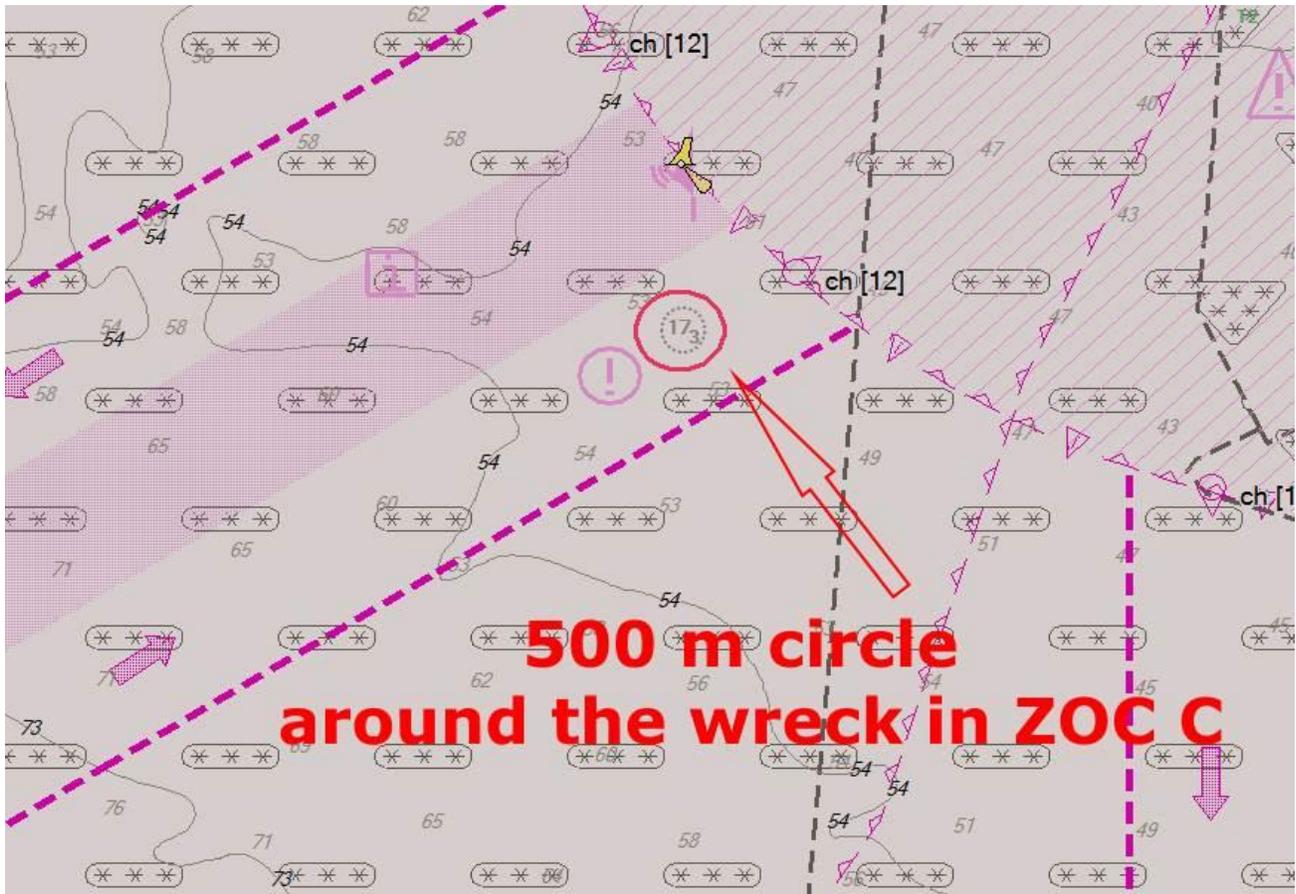
First find the minimum depth in the area close to the passage. In the case of chart below, it is 18.8 m. this is a ZOC A1, therefore,

$$\text{ZOC allowance (A1)} = 0.5 + 1\% \text{ depth} = 0.5 + 0.01 \times 18.8 = 0.688 = 0.7 \text{ m}$$

Therefore, the charted depths in the area of ZOC A1 on the chart will vary between +0.7m and -0.7m

⁶⁵ ECDIS – ENC Accuracy, North P & I Club, <https://www.nepia.com/media/869535/ECDIS-ENC-Accuracy-LP-Briefing.PDF>

⁶⁶ Pipchenko, A., 2018, Learnmarine, How to apply ECDIS CATZOC to UKC calculation, <https://learnmarine.com/blog/How-to-apply-ECDIS-CATZOC-to-UKC-calculation> (Accessed: 07/12/2025)



$$\text{ZOC allowance (C)} = 2 + 5\% d = 2 + 0.05 \times 17.3 = 2.865 = 2.9\text{m}$$

Therefore, the depth will vary between 17.3 +/- 2.9 which is equal to 20.2m to 14.4m

Which means that the real depth may be between 14.4 to 20.2 m anywhere in 500 m radius from the charted position. Dynamic UKC may be even less if the vessel experiences motion due to waves.

D) ECDIS anomaly⁶⁷

An ECDIS anomaly is an unexpected or unintended behaviour of an ECDIS unit which may affect the use of the equipment or navigational decisions made by the user. Examples include, but are not limited to:

- .1 failure to display a navigational feature correctly, such as:
 - .1 navigation areas recently recognized by IMO such as PSSA and ASL;
 - .2 navigational lights with complex characteristics; and
 - .3 underwater features and isolated dangers;
- .2 failure to detect objects by "route checking" in voyage planning mode;

⁶⁷ Refer the MSC.1/Circ.1503/Rev.2 of IMO or the latest for further details

- .3 failure to alarm correctly; and
- .4 failure to manage a number of alarms correctly.

The existence of such anomalies highlights the importance of maintaining ECDIS software to ensure that it is capable of displaying up-to-date electronic charts correctly according to the latest version of the IHO's chart content and display standards. It is recommended that appropriate checks be made with the equipment manufacturer. This is of particular importance where ECDIS is the only source of chart information available.

A manufacturer should notify the flag Administration, ROs and identified ECDIS users at the earliest possible opportunity to communicate if the ECDIS presents a risk to maritime safety, to health or to the environment due to a malfunction of software or hardware including appropriate mitigation measures.

Given the widespread use and the implementation of the ECDIS carriage requirement, the Committee considered it important that any anomalies identified by mariners are reported to and investigated by the appropriate authorities to ensure their resolution. Manufacturers should have a mechanism in place to ensure they notify identified users of their ECDIS systems about any noted anomalies and close out subsequently with relevant upgrades. Masters, shipowners and operators should use the software maintenance arrangements provided by the manufacturer to check if such upgrades are available.

E) How to identify information with regards to PSSA

To identify the latest list of PSSA, refer “LIST OF SPECIAL AREAS, EMISSION CONTROL AREAS AND PARTICULARLY SENSITIVE SEA AREAS”⁶⁸. Information could be obtained from:

- a) PSSA – Particularly Sensitive Sea Areas’ 2017 as amended, by IMO (This publication contains Associated Protective Measures adopted in individual PSSA⁶⁹)
- b) Navigational Charts
- c) Sailing directions
- d) Merchant Shipping Notices or Guidelines issued by local authorities

⁶⁸ Refer MEPC. 1/Circ.778/Rev.4 of IMO or the latest for further details

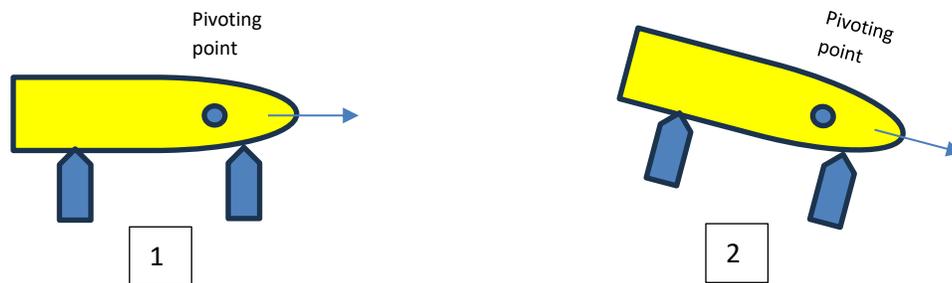
⁶⁹ Refer IMO Resolution MEPC.294(71) or the latest for further details

BASICS OF SHIP HANDLING AND MANOEUVRING

Pivoting point of a ship

The pivot point (or more precisely the “apparent pivot point”) is that point along the fore and aft axis of a turning ship, that has no sideways movement, having for reference the surface of the water⁷⁰. Identifying the position of the pivot point is very important in ship handling. Even though the position of the pivot point depends upon number of factors such as this design, trim, speed/direction of movement, external factors etc. following basic principles will be important to understand the position of a pivot point:

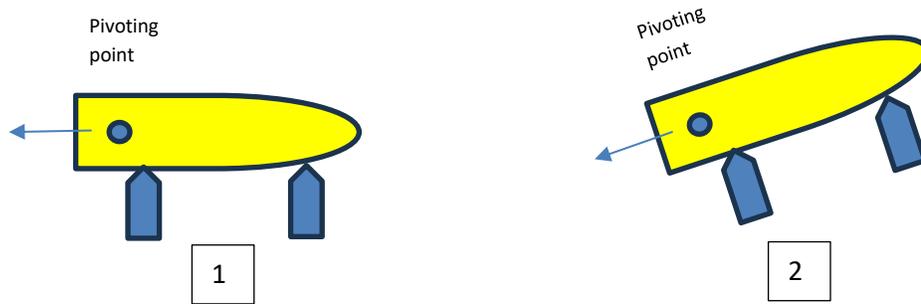
- When a vessel is stopped without longitudinal or lateral movements with even keel condition, pivot point will be closer to the longitudinal centre line.
- When a vessel is moving ahead, pivoting point is at 1/4 to 1/3 ship’s length from the bow. Higher the speed, it will be more forward.
- When a vessel is moving stern, pivoting point is at 1/4 to 1/3 ship’s length from the stern. Higher the speed, it will be more towards the stern.
- If one tug is used from one end of ship, pivoting point will move closer to the other end of the ship.
- If two tugs are used (forward & aft with equal distances from the both ends) with equal forces when the vessel is even keel, pivoting point will be closer to the centre line of the ship.
- If two tugs are used (forward & aft), pivoting point will move closer to the tug which applies less force.
- When pushed by two tugs with equal forces while a vessel moving forward:



As the pivoting point is forward, the stern will be pushed away than the forward as the leverage from the stern is high.

⁷⁰ Cauvier, H., 2008, The Pivot Point, <https://www.pilotmag.co.uk/the-pivot-point/> (Accessed: 01/12/2025)

- When pushed by two tugs with equal forces while a vessel moving astern:



Since the pivoting point is astern, the bow will be pushed away than the stern as the leverage from the forward is high.

Internal factors affecting a vessel's turning circle and their impacts

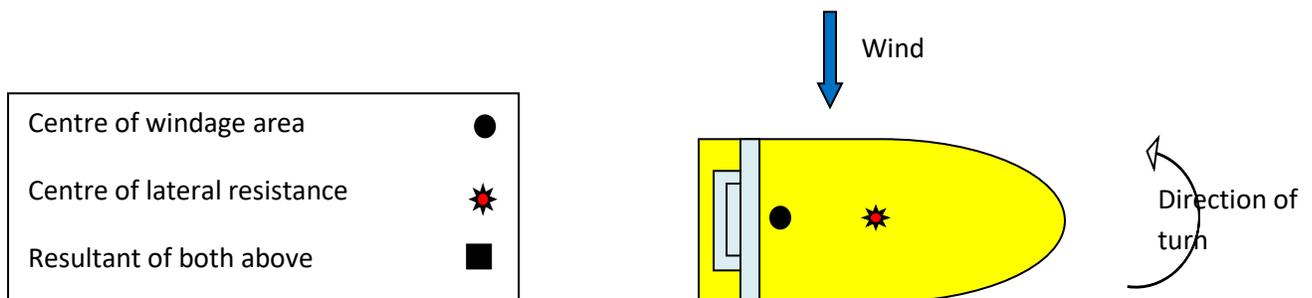
- **Trim** - If the vessel is trimmed by head turning circle will be reduced & the opposite happens when she is trimmed by stern.
- **List** - If the vessel is listed, turning radius will be large when turning to the listed side. Opposite occurs when turning to the other side.
- **Depth of water** - Turning radius will be increased when in shallow waters.
- **Speed** - Usually, turning radius will be increased with higher speeds.
- **Displacement** - Increases the turning radius with higher displacements.
- **Bulbous bow** - It may move the pivot point forward and increase the lever available to the rudder, decreasing the radius of turning circle.
- **Propeller design** - Right hand screw propeller will experience a larger turning radius when turning to starboard side.

Effects of wind on a vessel

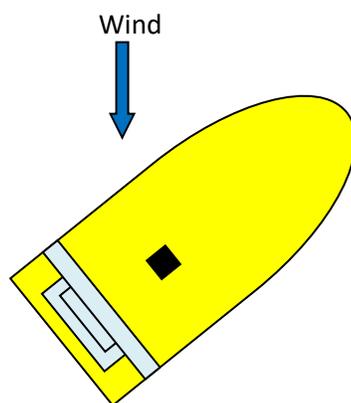
Vessels with aft accommodation and stopped

Centre of lateral resistance (CLR) means the point on the hull (**below water line**) where the total resistance force will act by the water against the movement of the vessel. when a vessel is trimmed by stern CLR is closer to the stern and it is close to forward when she is trimmed by head. when a vessel is moving forward, the centre of the lateral resistance also moves forward.

When there is no any movement, the CLR will be closer to the midship area provided the vessel is even keel. But the centre of the windage area will be closer to the accommodation. Therefore, the longitudinal distance between the centre of the windage area and the CLR will be less, creating a small 'turning lever'. Refer the figure below:

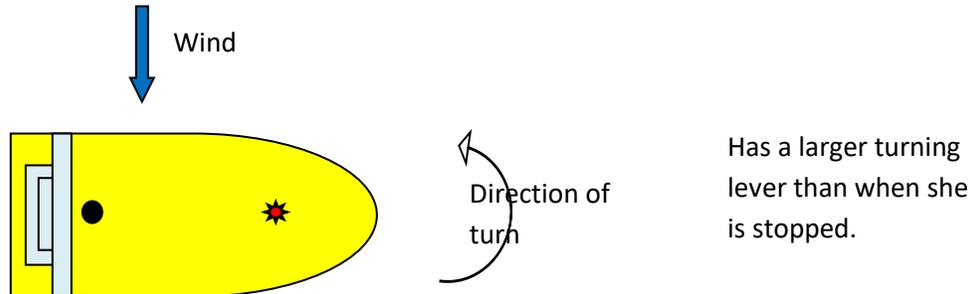


When started to turn due to wind, the centre of lateral resistance will move aft and the centre of the windage area will move fwd. When both are at the same place, she will settle down in that heading. Refer the figure below:



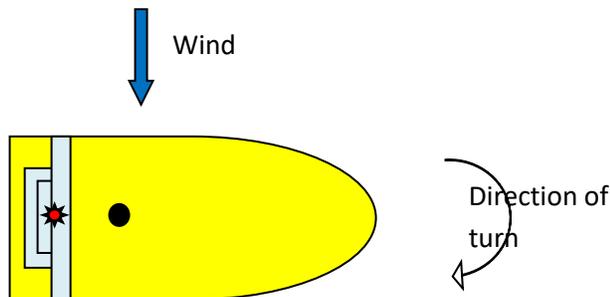
Vessels with aft accommodation and moving ahead

When moving forward, the pivoting point is forward of amidships. Therefore, the turning lever is larger than above, which requires more counteracting efforts.



Vessels with aft accommodation and moving astern

When moving astern, the pivoting point will move aft of the centre of the windage area. Refer the figure below:



Container ships and car carriers

When all the bays are loaded with same number of container tiers on deck, the position of the windage area could be calculated by means of the ship's stability book and can be able to estimate the behaviour of the vessel. But, when the bays are loaded with different number of tiers, may find difficulties in predicting the behaviour of a vessel, but need to understand how she behaves while manoeuvring.

On car carriers when stopped, the turning lever will be very small since the centre of lateral resistance and the centre of windage area both more or less are at the same place. Therefore, a car carrier without head way may settle down with a heading closer to 90^0 to the wind direction.

When a car carrier moving forward, the turning lever will be smaller than a vessel with aft accommodation moving fwd. Because the centre of windage area will be closer to the midship area. Therefore, efforts required to maintain the heading will be less, but, she will experience a serious lateral drift than an aft accommodation vessel.

When a car carrier is moving astern, a large turning lever will be generated, and the bow will be pushed down the wind very much faster than an aft accommodation vessel moving astern.

Kick ahead or kick astern

Kick ahead is usually used to;

- gain steerage when she is moving ahead at very slow speed
- initiate a turn (while moving or not moving)
- turn short round

If a kick ahead is used to initiate a turn, kick ahead should be given with the wheel hard over and engines are required to be stopped before she gains forward movement. A vessel will gather forward movement if frequent kicks ahead or prolonged kicks ahead are used. At the same time, in case of turning, engine should be stopped before reducing the helm.

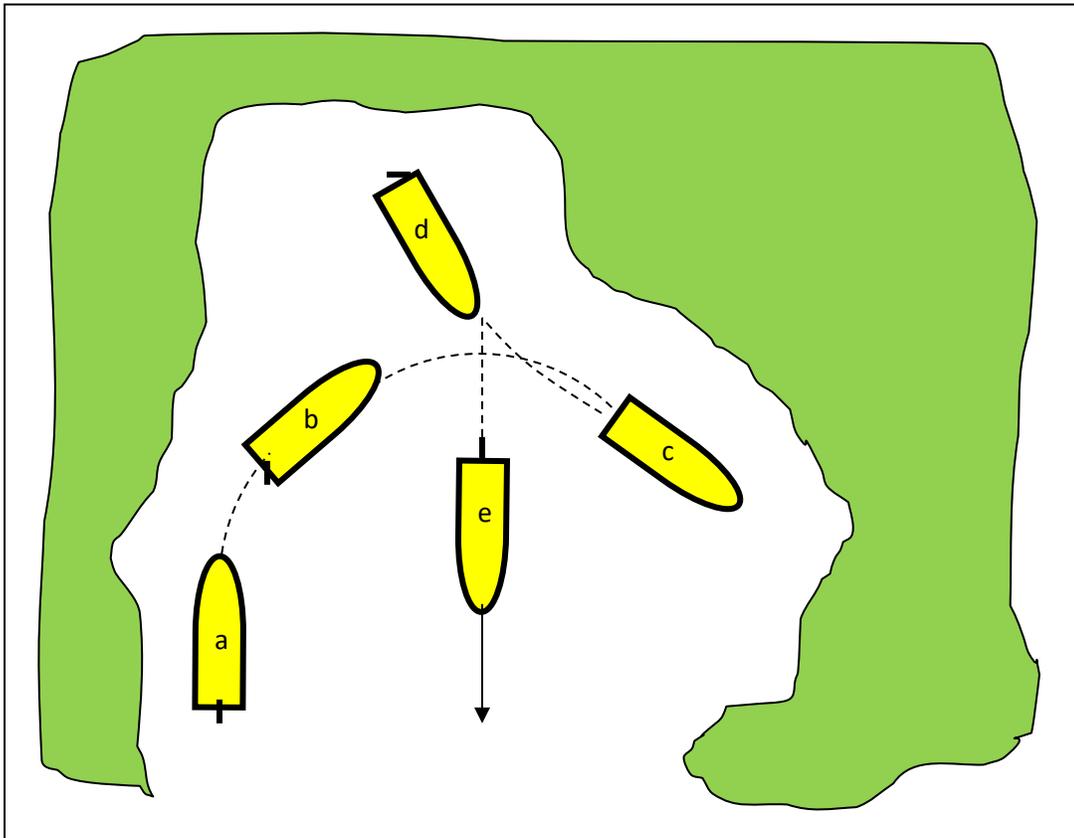
Kick astern is usually used for the purpose of initiating a turn or while turning short round.

Anything lesser than 'half ahead' or 'half astern' will also contribute to increase or initiate a head or a stern movement rather than helping the vessel to turn.

Turning short round

Turning short round means, turning a vessel within her own length. But practically, she may go beyond her own length due to the manoeuvring characteristics of the vessel, wind, current and the experience of the handler.

Turing short round with a right-handed screw propeller



With a right-handed propeller, the turn should be made to starboard as shown in the above diagram so that the effect of transverse thrust, when the engines are going astern is of assistance. Approach the turning point, keeping to the port hand side of the channel and make sure to leave enough room at the port side for the stern to swing. The below alphabetical letters refer to the letters on the above diagram.

- a) Start the manoeuvre from the port side of the channel to provide the maximum distance for the head reach of the vessel.
- b) Rudder hard a-starboard, main engines full ahead. Do not allow the vessel to gather headway. Stop engines.
- c) Rudder amidships, engines full astern.
- d) As sternway gathered, the bow of the vessel will cant to starboard while the port quarter will move in the opposite direction, owing to the effects of the transverse thrust. Stop engines. Helm to starboard and engine ahead.
- e) Engines ahead and steering the reciprocal course if required

If a current is running, usually it has a greater rate at the centre than at the side of the channel. If the current is coming from the stern of the vessel, this may be used to help the manoeuvre by keeping the vessel closer to the starboard side of the channel (initiate the turn with stern propulsion and the stern will be pushed by the current). Depending upon the trim, loaded/ballast condition, and the available

sea room, may have to take counter measures as well. If the current is coming from ahead, it is advisable to start the turn by keeping the vessel closer to the port side of the channel. It should be noted that a head wind will also assist this manoeuvre.

In case of twin-screw vessels, the propellers turn in opposite directions. To turn such a vessel short round, engines can be used in opposite directions.

Other means of turning a vessel

A vessel may be swung into her reciprocal course other than by turning short round as explained below. But the master needs to have a good understanding about the vessel's behaviour and the environmental effects on the vessel, in selecting the turning options.

A) With the aid of a bow thruster

Bow thrusters are very effective in turning a vessel very quickly but need to have a ship's speed of less than 2/3 knots to have a good turning effect.

Always better to turn a vessel toward the wind as aft accommodation vessel without deck cargo tends to turn toward the wind. Towards the end of the operation, need to use the bow thrusters in the opposite direction to control the turn.

When a vessel is experiencing a head wind or current, she may be swung into any side. To maintain the vessel's position, need to have head movements at the commencement of the turn and towards the end of the turn, need to have stern movements.

When a vessel is experiencing a stern wind or current, it is better to start turning towards the starboard side if she is a right-handed screw propeller. Because the paddle wheel effects generated during the stern propulsion that is used to keep the vessel in the same position can be used to turn the vessel quickly. Towards the end of the turn, to maintain the vessel's position, will have to use head movements on the engines.

B) With the aid of anchors

A vessel may be swung around an anchor as well. She can be turned either to starboard or port side, as the paddle wheel effect cannot be used effectively while turning around an anchor.

The bow thrusters cannot be used effectively for the purpose of turning a vessel around anchors.

If the vessel is to be turned to starboard side the starboard side anchor is to be used and vice versa.

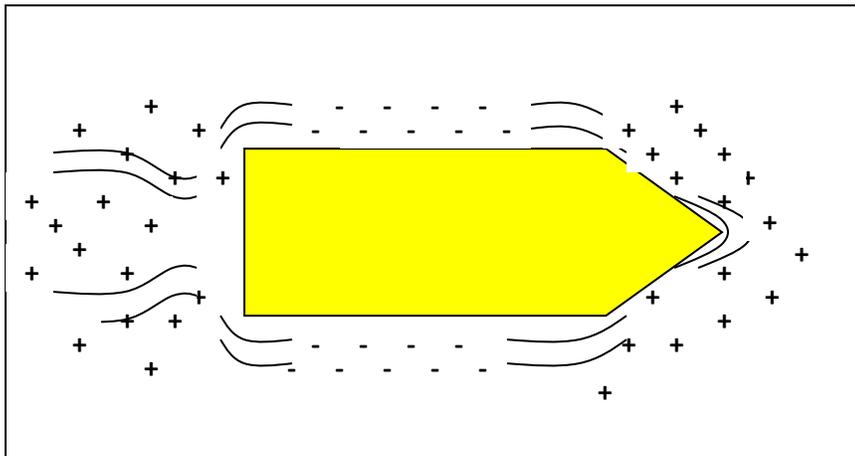
The length of the cable to be paid out depends upon the weather condition, size of the vessel, loaded/ballast condition etc. But dropping the cable under foot would be sufficient for a medium size vessel in calm weather conditions. At least half ahead kicks on the engines would be required with higher helm angles.

When experiencing a head wind or current, turning around an anchor may not be an easy task, as there is a high possibility of vessel running over the anchor cable.

Turning around anchor may be an ideal option when experiencing a stern wind or current. An initial action with the helm and the engines to turn would be sufficient as the vessel will be turned automatically after that.

Interaction between ships

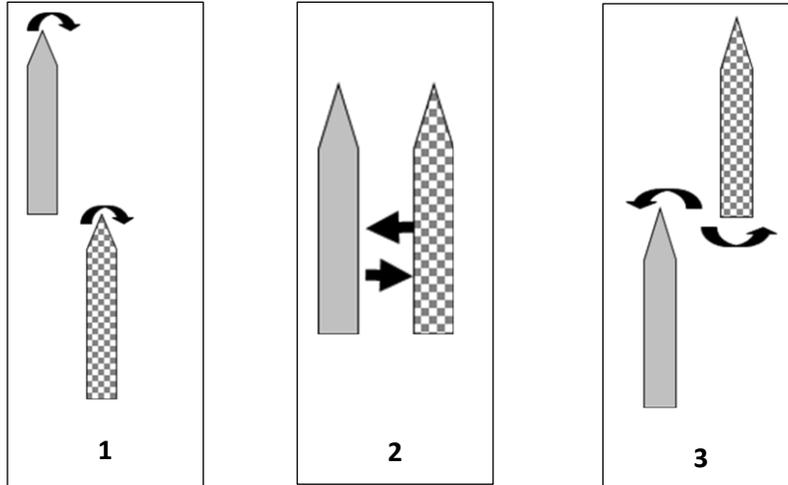
Hydrodynamic interaction may occur between ship & sea bottom, ship & bank and ship & other ships. The effect caused by the ship & bottom interaction is called as smelling the ground. The effect caused by the ship & bank is called as bank cushioning effect. Generally, the effect caused by ship to ship interaction is known as interaction or interaction between ships. When a ship moves forward, there is a region of high pressure at the bow and the stern. **The stern high-pressure region is of lower magnitude due to frictional losses.** The water displaced by the ship at the bow flows around and under the hull towards the stern and creates negative pressure in the mid-ship region.



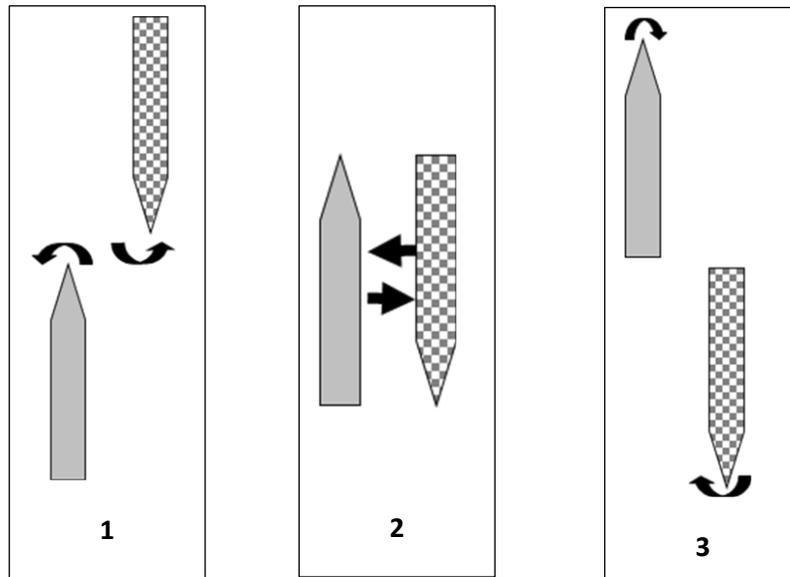
Hydrodynamic interaction between ships occurs at any depths but it is amplified in shallow waters and it is proportional to the ships passing speeds. i.e. if the speed is more, interaction between ships is more and vice versa. When different sizes of ships pass close to each other, effects of interaction are more on the smaller vessel. When a large vessel and a small vessel passing closely, there is a possibility of capsizing of the smaller vessel due to interaction.

A) Interaction between ships when over taking

These effects depend upon the sizes of the ship, their speeds, distances between the vessels and other effects from surrounding areas, such as the bank cushioning effects etc. The most important thing is to understand the pressure distribution system around a vessel.

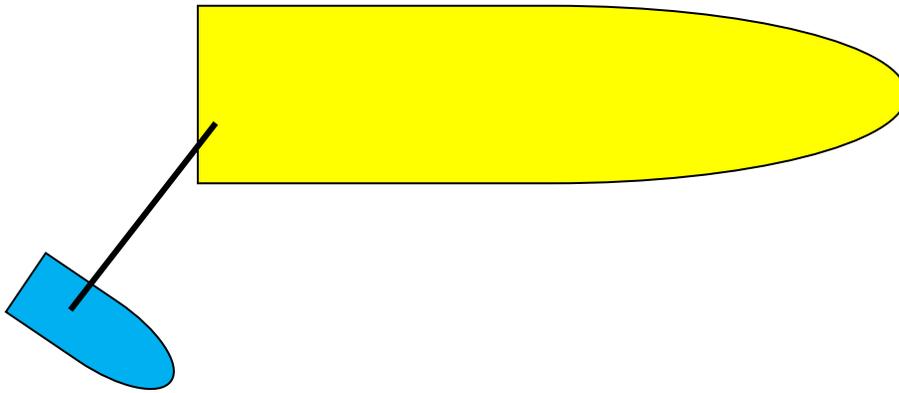


B) Interaction between ships when passing close by in reciprocal courses



Girting

Girting occurs on tugs when a tow line is secured on the midship area of the tug and when the tow line is perpendicular (or nearly perpendicular) to the fore and aft direction of the tug.



When the force on the tow is higher than the righting moment of the tug, she will continue to heel without coming back to the upright position. This is known as girting, girthing, tripping or girding. A tug may capsize due to girting.

Shallow water effects

Generally, with regards to navigation, shallow water means an area having a depth of less than 1.5 times the ship's draught. A master is required to refer the ship's SMS, as the company may define the term shallow water with different depth / draught ratio.

The shallow-water effects become more prominent as the under-keel clearance decreases since there is no sufficient water around the vessel. The shallow-water effects include:

- sluggish response to helm,
- the speed falls less during turns,
- a large increase in turning circle,
- a more pronounced effect from transverse propeller thrust,
- a possibility that transverse thrust may act opposite to that expected,
- the ship carries her way longer and responds slowly to changes in engine speed,
- change of trim,
- an increase in squat and
- vibration.

A) Squat effect

The squat effect is the hydrodynamic phenomenon by which a vessel moving quickly through shallow water creates an area of low pressure that causes the ship to be closer to the seabed than would otherwise be expected. Although the same thing happens in deep waters as well, deep water squat is not that important as there is sufficient water available below the keel. Squat is more prominent when the depth is less than 1.5 times the draught of a vessel.

Therefore, the squat is the result of hydrodynamic interaction between ship and sea bottom. It is not an increase in draft. Therefore, the mean draught remains the same. Water flow around box-shaped ships is more restricted and it is expected that these vessels squat will be more pronounced. If the vessel is even keel, squat may cause a trim by the bow for box-shaped vessels. In case the vessel is already trimmed, squat may cause to increase the trim. The navigator may suspect that the vessel is experiencing squat effect when;

- the steering is sluggish;
- the vibration is high;
- RPM fluctuates;
- propeller wash water at the stern is discoloured;
- trim is changed; or
- any combination of above.

The only available method to reduce the squat effect is to reduce the speed. The squat can be calculated by the following formulas, but the mariners are advised to refer the formulas or the squat tables provided by the company or if it is not available, may use the higher most value obtained from the following three formulas⁷¹:

$$\begin{aligned}\text{Squat} &= 10\% \text{ of the draught or} \\ &= 0.3 \text{ m for every 5 knts or} \\ &= V^2 \text{ (in knts)/100 (answer is in metres)}\end{aligned}$$

The squat in shallow water (ratio of water depth/draught = 1/1.5) may be doubled than that in deep water. The squat in canals and restricted channels in proximity to other vessels may be significantly greater.

B) Smelling the ground

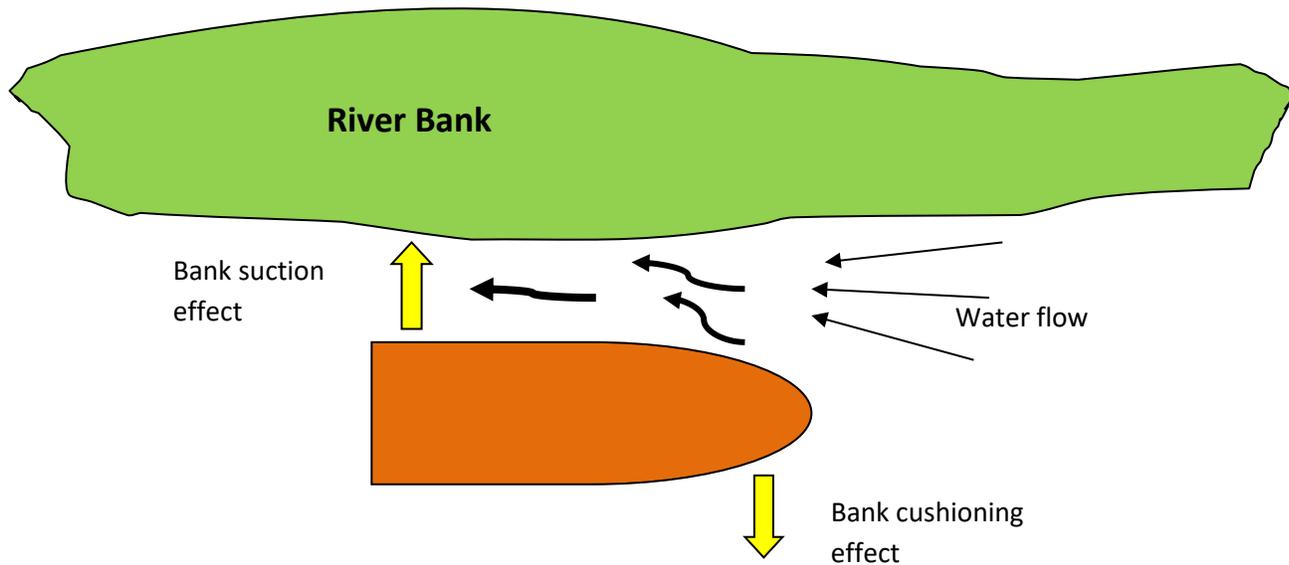
This occurs when a vessel is coming close to shallow water areas. A vessel coming closer to such a shallow water area will experience a sudden sheer towards the shallow area and then violently away from the shallow area. That is why it is known as smelling the ground.

C) Bank cushioning and bank suction effects

When a vessel is moving close to a bank, high pressure develops between the bank and the bow of the ship making the bow to push away from the bank. This is known as bank cushioning effect

⁷¹ Ministry of Defense (Navy), 1987, Admiralty Manual of Navigation, Volume I, TSO (The Stationery Office)

or the bow cushioning effect. The width of the black colour arrows indicates the speed of the 'water flow' in the diagram below.



Due to the loss of pressure and the increased speed of the water along the hull of the ship, she will be bodily sucked towards the bank, and this effect is known as bank suction effect.

D) Manoeuvring in narrow channels and in shallow areas

The effects of bow cushioning and the bank suction will be encountered depending upon the width of the channel and the size of the vessel. Forces will be balanced when the vessel is at the centre of the narrow channel.

The bow cushioning effects can be used as an advantage to a vessel when she is coming to a bend on the channel. If the bend is to the starboard, she will start turning to starboard automatically without the use of helm. If the helm also used to starboard, she may run aground on the starboard bank. The watchkeeper should use port helm to control the rate of turn caused by the bank cushioning effect.

Depending upon the size and speed, a vessel pulls a volume of water which equals to about 40% of the displacement behind the stern in very shallow water areas. If the vessel is stopped, the said volume of water will continue to move and when it reaches the vessel's stern, it may generate a strong and unexpected turning moment, causing the vessel to begin to sheer unexpectedly.

The effectiveness of the rudder may be reduced in shallow areas and the minimum RPM required maintaining the steerage will be higher than in open waters.

In case of passing closely with another vessel in a narrow channel, need to think of hydrodynamic forces between the riverbanks and the other vessel. When a vessel to be overtaken and if you are expecting to overtake the other vessel on your port side (when the other vessel is fine on your bow and very close, port bow in this case) may have to use port helm to counteract the starboard manoeuvre generated by the interactions between the ships. You may run aground if starboard helm is used. If the vessel to be overtaken is right ahead of your vessel and expecting to overtake on your port side, then initial little helm to starboard may be sufficient. You need to identify the movement of the vessel caused due to interaction when coming closer to the other vessel and act accordingly.

In case of ships proceeding in reciprocal courses, the interaction between the ships will be magnified rather than in case of overtaking. Therefore, may have to reduce the speeds considerably before the interaction effects are felt by the other vessel.

Vessel's movements in rough weather conditions

A) Rolling synchronization

Rolling synchronization occurs when the vessel's natural rolling period equals with the wave encounter period. This happens when a vessel is experiencing beam seas. When the rolling synchronization occurs; vessel's rolling angle will be increased with each wave. She will experience vigorous rolling movements and there is a high possibility of capsizing the vessel. Rolling synchronization can be avoided simply by altering the course. Change of ship's speed is not effective in reducing the rolling synchronization at all.

B) Pitching synchronization

Same as rolling synchronization, pitching synchronization occurs when a vessel's natural pitching period equals the wave encounter period. This happens when a vessel is experiencing head seas and when the pitching synchronization occurs; vessel's pitching will be increased with each wave. When a vessel is experiencing pitching synchronization, she will experience violent pitching movements and bow will start digging into head seas.

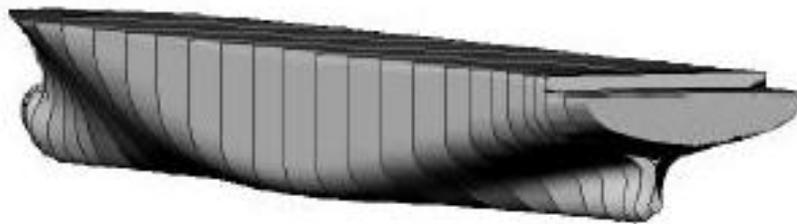
Reduction of ship's speed is the most suitable action to reduce this effect. The second option available is to alter the course. Speed shall not be increased to avoid this, as it may start pounding the vessel. This is also dangerous as she may encounter structural damage.

C) Parametric rolling

Parametric rolling means sudden, unstable, unsymmetrical (unsymmetrical means starboard rolling angle does not equal to port side rolling angle) and large rolling motions of a vessel while encountering head or stern seas. This is a dangerous phenomenon and could occur with rough weather as well as moderate weather conditions. A vessel may experience parametric rolling even though she is complying with the applicable stability criteria.

The phenomenon known as Parametric Rolling Movement (PRM) can cause a ship to roll at extreme angles of up to 30-40 degrees or more and may in extreme cases lead to capsizing of the vessel⁷². PRM may occur quickly just in only a few cycles and last a relatively short time. Nevertheless, this time would be sufficient to cause severe damages to the vessel and cargo⁷³.

This is a phenomenon that particularly affects larger vessels with flared fore and aft decks such as Container ships and Pure Car/ Truck Carriers (PCTC)⁷⁴.



Hull form of a container ship⁷⁵

However, in quarter seas, when the sea is striking a ship's quarter at an angle of 45 degrees to its heading, PRM may occur with other types of vessels⁷⁶.

When considering the transverse stability;

$$KM = KB + BM$$

When a ship's draught is less, KB will be less. When the water plane area is less BM will be less and finally, KM will be less. Opposite occurs when in higher draughts. By keeping this in mind refer to the diagram below:

⁷² Frank, A., SAFETY4SEA, Parametric rolling movement what to know, <https://safety4sea.com/parametric-rolling-movement-what-to-know/> (Accessed: 09/12/2025)

⁷³ SAFETY4SEA, Parametric rolling movement what to know, <https://safety4sea.com/parametric-rolling-movement-what-to-know/> (Accessed: 09/12/2025)

⁷⁴ The Nautical Institute, Parametric Rolling Motion (PRM), <https://www.nautinst.org/static/e05c5a46-9efd-49d3-839fddc8a7f85941/Introduction-to-Parametric-Rolling-Motion-ver-A4-presentation.pdf> (Accessed: 09/12/2025)

⁷⁵ As investigation of head-sea parametric rolling and its influence on container lashing systems, <https://www.steamshipmutual.com/ParametricRoll.pdf>

⁷⁶ SAFETY4SEA, Parametric rolling movement what to know, <https://safety4sea.com/parametric-rolling-movement-what-to-know/> (Accessed: 09/12/2025)



Wave crest is amidships⁷⁷

In the above situation, KM is reduced as water plane area is reduced. But KG does not change. Therefore, when the midship section of a vessel is on a crest of a wave, GM will be virtually reduced, because;

$$GM = KM - KG$$

When the opposite happens with a container vessel;



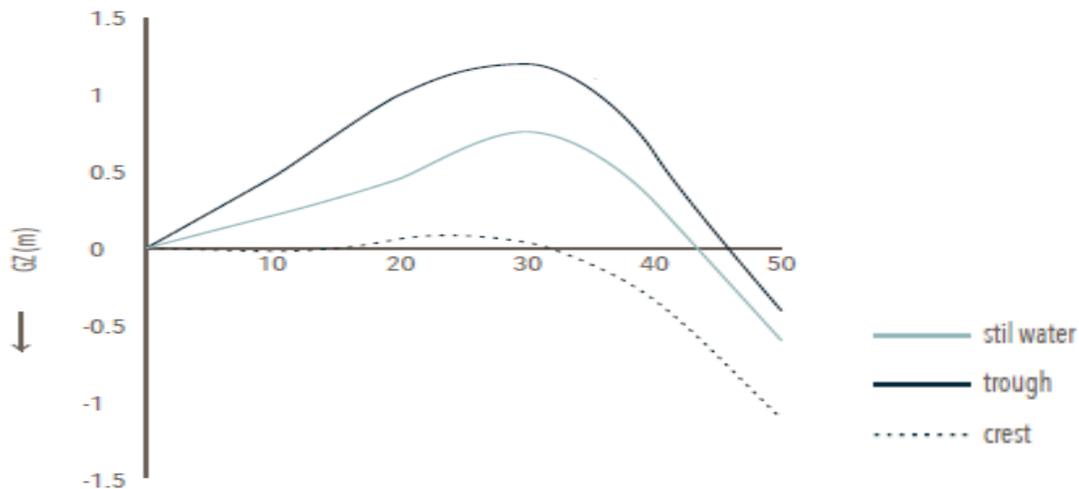
Wave trough is amidship⁷⁸

Since the container vessels have large flares forward and aft, the water plan area will be increased. This will increase the KM virtually and that will cause the GM to increase virtually.

Refer the GZ curve below for both the above situations above and the normal condition:

⁷⁷ Haas, J.D., Gard guidance on freight containers, https://downloads.eu.ctfassets.net/jchk06tdml2i/6cNC43LRkzR4ecW7HT1Bjn/c1eeb13b0c96af883839eb7d09c56dd/GardGuidanceContainers_optimised3.pdf (Accessed: 09/12/2025)

⁷⁸ ibid



Comparison of the GZ curves⁷⁹

Therefore, when a vessel is experiencing parametric rolling, the stability of the vessel will be improved when the vessel sits on a trough of a wave, and the stability will worsen when she is sitting on a crest of a wave. If the vessel's GM is not sufficient, she may encounter a negative GM as well.

Parametric roll motions with large and dangerous roll amplitudes in waves are due to the variation of stability between the position on the wave crest and the position in the wave trough. Parametric rolling may occur in two different situations⁸⁰:

- The stability varies with an encounter period T_E that is about equal to the roll period T_R of the ship (encounter ratio 1:1). Compiler's comment – In simple terms, what it means is vessel's pitching period is equal to rolling period.
- The stability varies with an encounter period T_E that is approximately equal to half the roll period T_R of the ship (encounter ratio 1:0.5). Compiler's comment – In simple terms, what it means is that the vessel experiences two rolling motions within one pitching period.

Seafarers should be made aware of the PRM phenomenon and actions to be taken to avoid such situations. When accessing the PRM situation, the following should be considered⁸¹:

- Direction, length, and height of dominating waves;
- Navigation area (North Atlantic is known for PRM);
- Encounter period of waves which can be calculated using the IMO diagram (Compiler's note - Refer IMO, MSC.1/Circ.1228 or the latest);
- Vessel's stability characteristics.

⁷⁹ Haas, J.D., Gard guidance on freight containers, https://downloads.eu.cfassets.net/jchk06tdml2i/6cNc43LRkzR4ecW7HT1Bjn/c1eefb13b0c96af883839eb7d09c56dd/GardGuidanceContainers_optimised3.pdf (Accessed: 09/12/2025)

⁸⁰ Refer IMO, MSC.1/Circ.1228 or the latest for further details

⁸¹ SAFETY4SEA, Parametric rolling movement what to know, <https://safety4sea.com/parametric-rolling-movement-what-to-know/> (Accessed: 09/12/2025)

Actions to be taken to avoid parametric rolling

- Master is required to select the course and the speed in such a way to avoid the encounter ratios of 1:1 and 1: 0.5 as mentioned above⁸². To avoid this, need to know the rolling period before hand. Therefore, vessel's rolling period is to be monitored during calm weather conditions.
- Have a higher GM but without making her stiff, so that the GM will not become negative while experiencing parametric rolling.
- Ensure the GM is similar to the GM used in the cargo securing manual (CSM) in arranging the lashing arrangements. Parametric rolling cannot be avoided by this, but damages due to rolling and pitching can be avoided. The stresses acting on lashing material will be increased during rolling and pitching. If the vessel's GM is not similar to the GM used in CSM, the stresses on the lashing material will be further increased causing damage to lashing materials and then the cargoes.
- Master to make proper route planning by referring to the forecasted weather (weather routing).
- Reduce the FSE since the FSE increases the virtual loss of GM during parametric rolling.
- Follow the instructions provided in the stability book in avoiding parametric rolling.

D) Pooping

Pooping means shipping spray and seas over the poop deck. Pooping occurs when a vessel is experiencing following or quartering seas and when the speed of the swell/wave is higher than the speed of the ship. While the wave/swell is trying to overtake the vessel, shipping seas may take place from the poop deck. This is a dangerous phenomenon with smaller ships than with large ships. Pooping is dangerous mainly due to two reasons. First one is that there are more openings around the poop-deck than in the forecastle, therefore possibility of flooding is higher, and the second reason is that no much control over the manoeuvring of a vessel when pooping occurs. The only option available to avoid pooping is to alter the course.

E) Broaching

Same as pooping this also occurs during stern seas. A vessel riding down a wave is known as surfing or surf riding. This will accelerate the speed of the vessel considerably causing the bow to dig into the wave ahead and finally, the forces acting behind the vessel may swing the stern violently either to port or starboard side creating a severe list. This phenomenon is known as broaching. A vessel may capsize due to sever broaching. This is also a dangerous phenomenon

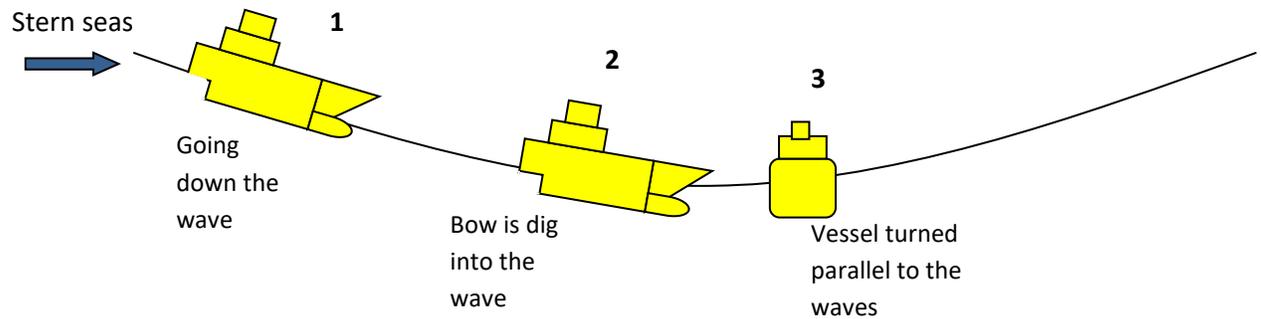
⁸² Refer IMO, MSC.1/Circ.1228 for further details

on smaller ships rather than on larger ships. This could be avoided easily by altering the vessel's course.

Surf-riding and broaching-to may occur when the angle of encounter is in the range $135^\circ < \alpha < 225^\circ$.

Where:

α = angle of encounter ($\alpha = 0^\circ$ in head sea, $\alpha = 90^\circ$ for sea from starboard side)



F) Steering 'weather courses', 'heave to' and 'hove to'

When a vessel is experiencing severe weather conditions, she may have to steer various courses to avoid heavy pitching and rolling. This is generally known as steering 'weather courses' and this could be done by hand steering or by auto pilot. But, if the auto pilot is used, make sure to increase the weather setting on the autopilot. On smaller vessels, steering weather courses with the autopilot may not be possible even with the increased weather setting on the auto pilot and probably need to use hand steering.

While a vessel is heading towards the sea to avoid severe rolling, she may start severe pitching. In that case, she may have to reduce the speed to avoid severe pitching. In very rare cases, may have to reduce the speed to such an extent that she will be stopped over the ground. That means, she will be having a speed just enough to climb the waves only. This is known as 'heave to' and the past tense is 'hove to'. Whether to start 'heaving to' or not completely depends upon the size of the vessel and the weather condition. A smaller vessel experiencing heavy seas may have to 'heave to' where, a larger vessel facing the same weather condition may not require 'heave to' even though she may have to reduce the speed to a certain extent.

Berthing

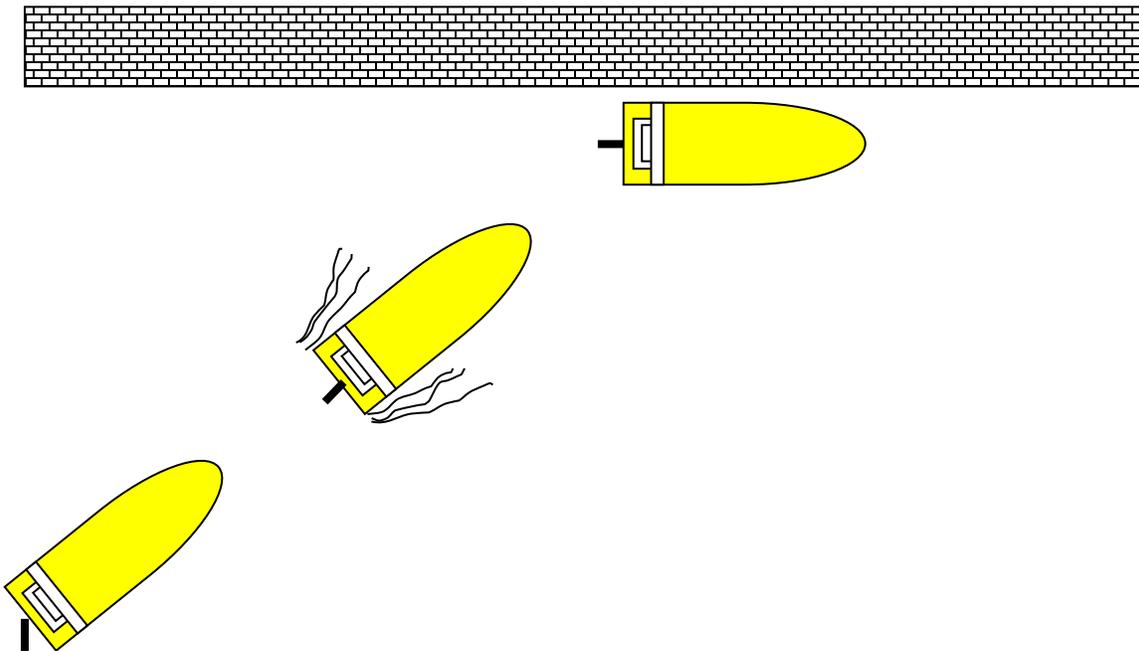
Below approaches are described for vessels with right hand pitched propellers when handling without tugs. At the same time, remember that the actual procedures may change depending upon the behaviour of individual vessel, weather condition, positions of berths/other vessels etc. Certain

approaches will not be applicable on large vessels and may require services of one or more tugs. Apart from the examples provided below, you are required to think of various scenarios with the wind, current from various directions to gain a better knowledge of berthing and unberthing.

A) Berthing without wind or current – Port side along side

A vessel with a right-handed screw propeller will be easy to berth port side alongside since the paddle wheel effect can be used for the benefit of the berthing operation. In case of berthing port side;

- approach the berth at an angle.
- proceed at a controllable speed.
- headline to be passed as soon as possible.
- use stern power to turn the vessel parallel to the berth.
- pass the stern rope as soon as possible.
- the ropes to be slacked or heaved up depending upon the lateral distance to the vessel from the berth and the final berthing position.



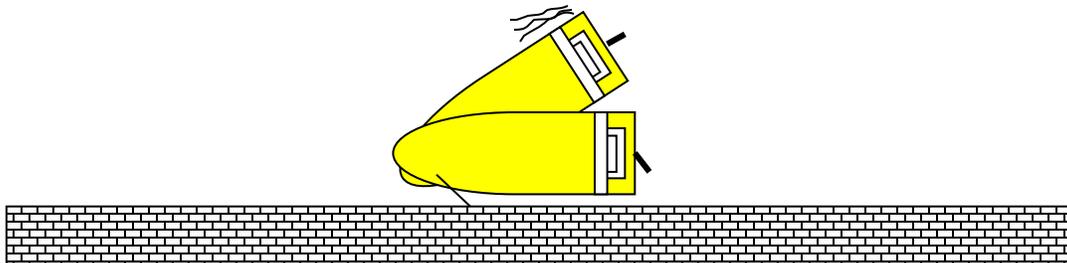
B) Berthing without wind or current – starboard side along side

- Most advisable direction is to approach the berth parallel to the jetty if there are no other vessels and no interactions with the berth.

- Need to proceed at a reduced speed to avoid bow cushioning effect and stern suction effect. These effects would not be encountered in the case of open berths.
- Pass forward and aft springs first.
- When the vessel is at the correct position, need to use stern propulsion to stop the head movement. If the stern propulsion is too high, the bow will turn towards the berth and the stern away from berth. Therefore, the initial head movement and the final stern movement both shall be at controllable speeds.
- If required, to counteract the starboard turn, prior to the stern propulsion, may initiate a port swing with port helm.

C) Un-berthing without wind or current – port side along side

- Let go all the ropes except one of the forward spring. The longest and the strongest is the most suitable.
- Tighten the forward spring rope until the bow is sufficiently turned towards the berth.
- May use a head kick (preferably half ahead) with the wheel hard over to the port side to initiate the port turn.
- When the vessel is sufficiently turned, let go the fwd spring rope.
- Use the engines astern to move the vessel off the berth.



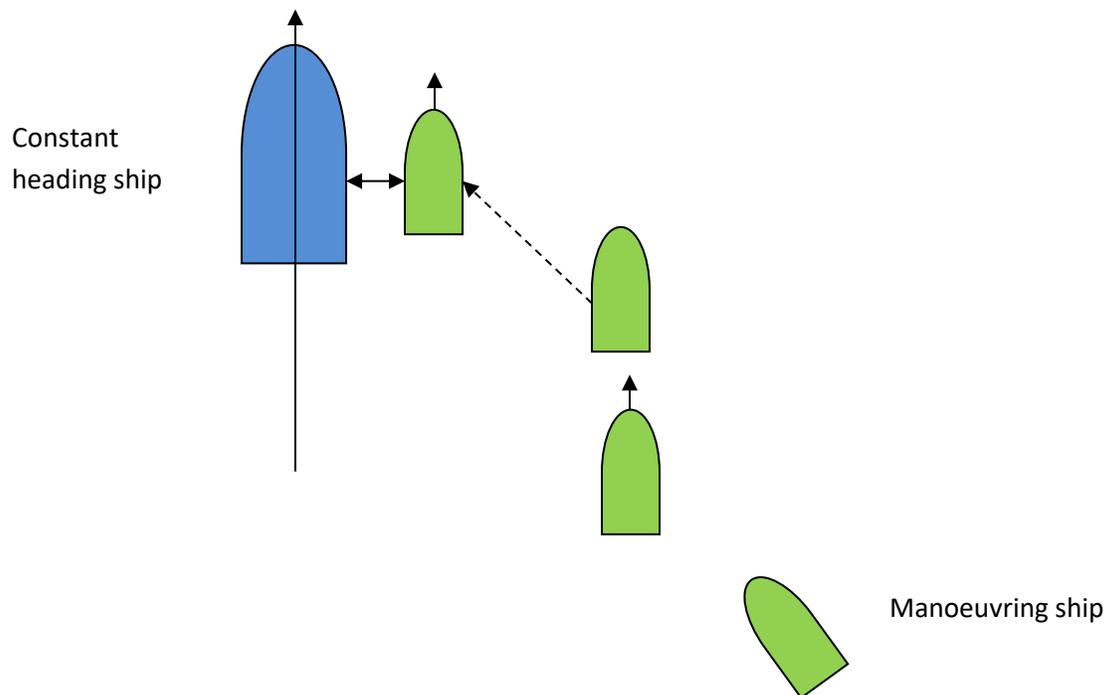
Manoeuvring for STS operations⁸³

Double banking while under way

The larger of the two ships should maintain steerage way at slow speed (preferably about 5 knots) keeping a steady course. Local conditions and knowledge will dictate the appropriate heading with due regard to transfer area and weather conditions. The manoeuvring ship (smaller vessel) has to manoeuvre alongside.

⁸³ Refer the ship's STS Operations Plan for further details

It is recommended that the manoeuvring ship approaches and berths with the port side to the starboard side of the constant heading ship. Refer the figure below:



Be aware that some local jurisdictions may have regulations specifying some aspects of manoeuvring between the ships.

General advice for controlling the two ships

Each ship should take the following into account:

- courses requested by the manoeuvring ship must be followed by the constant heading ship.
- ship's speed should be controlled by adjusting engine revolutions (or propeller pitch). Any adjustment should be limited; for example, to plus or minus 5 rpm rather than using the telegraph. However normal full operating range must remain readily available.
- for diesel engines, ascertain number of air starts available.
- at night the deck should be adequately lit and, if possible, the ship's side and fenders should be lit by spotlights
- the side for mooring should be clear of all over side obstructions.
- the navigation lights and shapes appropriate to STS transfers should be displayed.
- there should be effective radio communications between the bridge and mooring personnel.
- there should be effective communications between the Masters of each ship.

Advice for manoeuvring alongside

- If either of the Masters of the ships or the STS Superintendent has the slightest doubt about the safety of the manoeuvre, the berthing operation should be aborted.
- At all times each ship is responsible for maintaining a proper lookout.
- Generally, during manoeuvring, the wind and sea are kept on the port bow of the usually larger constant heading ship; however local conditions or knowledge may indicate an alternative approach.
- The angle of approach adopted by the manoeuvring ship should not be excessive.
- A common method of berthing is for the manoeuvring ship to approach the constant heading ship from the quarter on the side of berthing. On closer approach the manoeuvring ship should parallel the course of the constant heading ship at a safe distance that is appropriate to the conditions, before positioning itself relative to the constant heading ship. Contact is made by manoeuvring ship reducing the distance by appropriate rudder and engine movements until the fenders touch.
- The two ships should preferably make parallel contact at the same speed with no astern engine movements being necessary.
- No engine movement on the constant heading ship should be made without advising the STS Superintendent or Master of the manoeuvring ship.
- The effects of ship interaction should be anticipated when manoeuvring at close quarters.

Manoeuvring two double banked ships to an anchorage

On completion of mooring, the constant heading ship will usually power all future manoeuvres and, if a transfer at anchor is planned, will proceed to the agreed anchoring position. During this time, the (former) manoeuvring ship will have its engines stopped and rudder amidships. It should be emphasised that, for this period, in order to avoid problems for the manoeuvring ship the constant heading ship should not use strong astern engine movements. *Speeds through the water should be minimal.*

The constant heading ship should use the anchor on the side opposite to that on which the other ship is moored.

Once at anchor, each ship is responsible for watch keeping arrangements.

Manoeuvring two double banked ships for under way STS operations

As long as adequate sea-room is available and traffic conditions, weather, sea conditions and forecasts are suitable, then transfers of this type can be carried out, but it should be noted that speeds through the water should be minimal.

The constant heading ship maintains steerage way at slow speed on a steady course and the (former) manoeuvring ship keeps its rudder amidships and remains (with engines stopped) as a towed ship. In order to minimise towing loads on the moorings, the constant heading ship should alter her engine revolutions sparingly, adjusting speed very gradually. The chosen course and speed should be agreed by the two Masters and the STS Superintendent and should result in minimum relative movement between the two ships and minimum turbulence in the gap between the hulls.

Under such circumstances, while the ships are moored together as a unit, safe navigation and collision avoidance is usually the responsibility of the constant heading ship but may be under the direction of the person in overall advisory control aboard the lightering ship.

The two ships can drift freely provided conditions are suitable and a transfer area of suitable size is available.

The use of the underway transfer system requires a full navigational watch to be kept on the bridge of each ship.

Manoeuvres with One Ship at Anchor

The anchor on the side opposite to that on which the other ship will moor shall be used. The berthing operation should only commence after the anchoring ship is brought up to her anchor and is lying on a steady heading with reference to prevailing current and wind conditions.

The Master of the ship which is to anchor should allow for the fact that the single anchor will be required to hold both ships. When anchoring in deep water, and using an extended scope of cable, the Master of the ship that is to anchor should also ensure that the windlass is capable of recovering the cable and anchor once the operation is completed.

The type of berthing operation then undertaken by the manoeuvring ship is similar to a normal approach to a jetty. A risk assessment should be undertaken by the organisers to evaluate the necessity of tug assistance for the manoeuvring ship.

A careful watch should be kept on the heading of the anchored ship and the anchored ship should advise the manoeuvring ship immediately if she has any tendency to yaw. Where there is a tendency to yaw excessively, a tug should be employed to hold the anchored ship on a steady heading. If no tug is available, postponement of the operation should be considered.

This manoeuvre can be preferred for more constrained transfer areas, especially when tug assistance is available, or if the manoeuvring ship is fitted with a bow thruster. Where current and wind are not from the same direction or the wind varies in speed or direction the anchored ship can yaw (or lie

cross-current), making it difficult for the manoeuvring ship to berth alongside. Also, both ships could experience different effects due to their different freeboards and draughts. In these circumstances tug assistance may be advisable to hold the anchored ship on a steady heading during berthing.

It is recommended that the services of an experienced STS Superintendent be utilised for this type of operation. ***However, berthing should not be attempted when the tidal stream is due to change.***

When approaching a ship at anchor some Masters recommend a wider angle of approach than that adopted for manoeuvres underway. A wider angle of approach, especially when tugs are not available, helps to avoid early ship-to-ship contact in cases where the anchored ship might yaw unexpectedly. It is recommended that the manoeuvring ship approaches and berths with her port side to the starboard side of the other ship. When mooring to an anchored ship, care should be taken not to pull the anchored ship quickly towards the manoeuvring ship.

Anchoring procedure

Consider the following points before, while and after anchoring:

- Select an area for anchoring. Consider the below points in selecting an area:
 - Availability of designated areas
 - Information in the Pilot volumes
 - Distances to navigational dangers
 - Condition of the sea bottom
 - Traffic around
 - Distances to under water obstructions
 - Shelters available
 - Availability of currents
 - Possibility of bad weather
 - Availability of swinging room
- Carryout a risk assessment.
- Check the wind and the current
- Make an anchoring plan.
- Decide on the number of shackles to be let gone. It depends upon:
 - Length of stay
 - Depth available
 - Availability of wind and current
 - Distance to navigational dangers
 - Ballast / loaded condition of the vessel
- The number of shackles to be used can be decided by the following formulas as well (D = depth in 'm'):
 - Number of shackles of cable = $1.5\sqrt{D}$
 - Length of cable in 'm' = 6 to 10 x D

- Decide whether to let go the anchor or walk back the anchor. On smaller and medium sized vessels anchor may be let gone in shallow waters. Never let go the anchor on large vessels or in deep water anchoring. There is no an internationally accepted definition for deep water and shallow water, which depends upon the draft depth ratio. Refer the ship's SMS. But, usually, anchoring in depths less than 35-40 m are considered as shallow water anchoring.
- Ensure the bridge, engine room and forecastle are ready and sufficiently manned.
- Make sure the bridge controls are tested including the stern propulsion to ensure proper functioning.
- Ensure the anchor lashings are removed and in cock-a-bill position.
- Approach the anchoring area with a controllable speed and facing the wind/current whichever the highest. Refer the headings of the other vessels which are already at anchor.
- Monitor the progress of the vessel throughout.
- Stop the vessel at the point at which the vessel is expecting to drop the anchor.
- Initiate a stern movement. While giving a stern movement, observe the propeller wash. On smaller and medium sized ships, when the propeller wash is passing the bridge wing (on aft accommodation ships), stop the engine. On large and fully loaded ships, may have to wait until the propeller wash comes closer to mid ship.
- Start lowering the cable.
- When the desired numbers of shackles are out, put the brakes on and wait until she is brought up.
- When she is brought up, order the forward party to tight the brakes and put the guillotine on and to raise the anchor ball.
- Ensure the bridge resources are properly managed & utilized throughout.
- At night, ensure, appropriate lights are displayed.
- Make sure the OOW has made a swinging circle.
- Inform the engine room whether the engines to be kept on standby or finish with engines.
- Report to appropriate parties such as port authority, owners, charterers, agents etc.

Open moor, Baltic moor and Mediterranean moor

Refer "Seaman Ship Techniques" by D.J. House for the procedure of the operation.

Running moor and standing moor

This is good when anchoring in restricted areas (especially, restricted by land) and when excessive yaw is expected, to reduce the swinging circle. Students must understand that this moor will not increase the holding power as she will be riding to one cable always. Refer "Seaman Ship Techniques" by D.J. House for the procedure of the operation.

CLAUSES IN CHARTER PARTIES AND BILLS OF LADINGS

Liberty clause on bills of lading

Due to higher risks involved, carriage of cargo on deck could be unlawful unless it is a custom of the trade. Examples for the customs of the trade include:

- Carriage of containers on deck;
- Carriage of timber on deck;
- Carriage of heavy lifts on heavy lift carriers etc.

Otherwise, a carrier may carry cargo on deck with the consent (agreement) of the shipper. In accordance with the Hague/Visby rules, it will be applied only when;

- cargo which by the contract of carriage is stated as being carried on deck; and
- is so carried.

To have more freedom of cargo stowage and carriage, the liberty clause is used by carriers. A usual liberty clause states “*Carrier has liberty to carry goods on deck without notice to the merchant and without stating the on deck carriage on the bill of lading*”.

Off-hire clause

In case of time charter parties, the charterer is required to pay the hire to the ship owner without any delays as agreed on the charter party. But, if the vessel is not in operation as required by the charter party, the expenses incurred during the period of off hire will have to be borne by the ship owner. If the vessel is off hire, the master is required to inform the time charterer and the ship owner along with the other information required. The master needs to be aware of the off-hire clause to understand whether a situation can be considered as off-hire or not. Different charter parties may have different off-hire clauses. The following example provides an off-hire clause given in New York Produce Exchange time charter.

“In the event of loss of time from;

- *deficiency of men or stores,*
- *fire,*
- *breakdown or damages to hull, machinery or equipment,*
- *grounding,*
- *detention by average accidents to ship or cargo,*
- *drydocking for the purpose of examination or painting bottom, or*
- *by any other cause preventing the full working of the vessel,*

the payment of hire shall cease for the time thereby lost; and if upon the voyage the speed be reduced by defect in or breakdown of any part of her hull, machinery or equipment, the time so lost, and the cost of any fuel consumed in consequence thereof, and all extra expenses shall be deducted from hire.”

Slow steaming clause

Slow steaming (reducing ship speed) is the most effective way for reducing a ship's fuel consumption. For every 1% speed reduction, close to 2% reduction in fuel consumption per tonne mile is feasible⁸⁴. But slowing down the vessel does more than only assisting operators to save fuel. The report "Regulated slow steaming in maritime transport" was launched as the IMO opened its 63rd Marine Environment Protection Committee meeting and states that, if global maritime speeds were reduced by 10 per cent, carbon dioxide savings would rise to 19 per cent, even after the cost of building and operating new ships to make up for lost capacity was considered. Slow steaming has therefore been described as "a win-win situation" for both the industry and the environment⁸⁵.

Slow steaming clauses in voyage charter parties may differ from such clauses in time charter parties. But, again, a master must ensure the safety of the vessel, protection of the marine environment while complying with the slow steaming requests from the charterers. If the vessel is not designed to continue on slow steaming for long times or if the weather condition does not permit slow steaming or for any other reason which jeopardizes safety or marine environment, a master can decide not to continue on slow steaming provided owners and charters are informed.

Virtual arrival clause in charter parties and Just In Time (JIT) concept of IMO

The inclusion of "virtual arrival" clauses into charterparties seems to be the latest endeavour to cut costs and meet the great pressure to reduce greenhouse gas emissions. A virtual arrival clause permits a charterer to request an owner to adjust the speed of the vessel to arrive at a loading or discharging port at an agreed date and time. In other words, the clause is designed to assist shipowners, charterers and ports to come to a rational agreement regarding sailing speed and arrival time to avoid port congestion. Like the slow steaming clauses, any reduction in the vessel's speed, with charterers' agreement, should not be considered a breach of owners' due dispatch obligations and should therefore not give rise to an unjustified deviation. By reducing speed to meet a mutually agreed arrival time, the vessel can avoid spending time at anchor awaiting a berth. Virtual arrival can therefore be described as a process that recognises known inefficiencies in the market, such as the need to wait to discharge because the terminal is not ready to handle the cargo, by implementing the possibility to reach a mutually agreed arrival time based on information that reaches the concerned parties under a voyage⁸⁶.

Ships for a number of reasons spend extended periods of time in ports or at anchorage. If these periods could be reduced in favour of additional days at sea, the ship could adjust to lower speeds

⁸⁴ IMO, Energy efficient ship operations, <https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Air%20pollution/M3%20TTT%20course%20Posters%20final1.pdf> (Accessed: 03/12/2025)

⁸⁵ <https://gard.no/insights/slow-steaming-and-virtual-arrival/> (Accessed: 03/12/2025)

⁸⁶ <https://gard.no/insights/slow-steaming-and-virtual-arrival/> (Accessed: 03/12/2025)

*and thus save fuel. This is regarded as a major energy saving measure. In shipping, JIT could apply to both ship's passage and port operations*⁸⁷.

The virtual arrival clause and IMO's concept of JIT both mainly aims to avoid congestions at ports by arriving the vessels when the berths are available. But JIT is a broader concept where energy savings can be achieved while protecting the environment where the virtual arrival clause is a contract between a ship owner and a charterer in a contract of carriage.

Liberty and deviation clause on charter parties

Charterparties and contracts of carriage often contain a clause giving the carrier liberty to deviate from the contractual voyage for various stated reasons⁸⁸.

During the voyage of a vessel, she may have to deviate from the contracted route for various purposes. If the vessel is deviated, depending upon the circumstances, a carrier would be held liable for the expenses incurred during the period.

Some charterparties states that the vessel may be deviated for the purpose of bunkering with the owner's consent. In that case, if the vessel is deviated without the consent of the owners, it would constitute a deviation.

At the same time, if the vessel is not allowed to deviate to take spares but allowed to deviate for bunkering, she may deviate for bunkering and at the same time may take spares during the bunkering period. But, if the vessel is deviated to take spares for the vessel alone, no protection for the carrier even though she is allowed to deviate for bunkering.

Both to blame collision clause

The both to blame collision clause is incorporated into bills of lading to protect the shipowner against cargo related claims from own cargo owners.

As an example, if the vessel A and B are collided. After the judicial proceedings the fault will be apportioned. Assume that the fault is apportioned as A is 30% to blame and B is 70% to blame.

The cargo owner of vessel A cannot claim for any losses from A as '*the ship owner is not liable for any act or neglect of the master mariner or pilot or*' as stated in The Hague / Visby rules.

⁸⁷ IMO, Energy efficient ship operations, <https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Air%20pollution/M3%20TTT%20course%20Posters%20final1.pdf> (Accessed: 03/12/2025)

⁸⁸ West P&I, Underwriting Guides-Geographical Deviation, https://www.westpandi.com/getattachment/68c91f34-3947-4ffa-ab80-34c8188c9128/underwriting_geographical_deviation_2pp_v1_lr.pdf (Accessed: 04/12/2025)

Therefore, cargo owner of A will claim his total loss from the owner of the vessel B. Vessel B will pay that to the cargo owner A and he will claim the part of that loss (means according to the percentage the vessel A is at fault) from vessel A, because it is a loss for him and it is included in the 100% of the total loss.

Vessel A must pay that share to the vessel B. if the both to blame clause is effective vessel A can claim that loss from her own cargo owner.

Example

Assume that after a collision between two ships, both the vessels have been found equally to blame (each vessel is 50% at fault).

- Damage to cargo onboard the “Carrier” – 10,000 US\$
- Damage to the “Non-carrier” – 8,000 US\$

The Cargo owner cannot claim from the “Carrier” due to Hague/Visby Rules. Because, The Hague/Visby rules states that “Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from act, neglect, or default of the master, mariner, pilot or the servants of the carrier in the navigation or in the management of the ship”.

Therefore, cargo owner will claim his loss of 10,000 US\$ for the “Non-carrier”.

Now, the total loss for the “Non-carrier” = 10,000 + 8,000 US\$

Since, each vessel is 50% at fault, the “Carrier” liability to “Non-carrier” = 5,000 + 4,000 US\$

Therefore, the “Non-carrier” will get 9,000 US\$ from the “Carrier”. If the both to blame collision clause is effective, “Carrier” will be indemnified by the cargo owner for 5,000 US\$ as this is what the “Carrier” has paid to the “Non-carrier” because of the damage to the cargo onboard her own.

Retla clause⁸⁹

While loading steel products and timber, there is a high possibility, steel cargo may contain rust to a certain degree, and the timber products may contain moisture to a certain degree. In such situations the master will not be able to issue a clean bill of lading. Therefore, the Retla clause is used by some ship owners to protect themselves against damage claims when a clean bill of lading is issued. Refer the below Retla clause:

"The term "apparent good order and condition" when used in this bill of lading with reference to iron, steel or metal products does not mean that the goods, when received, were free of visible rust

⁸⁹ UK P&I Club, Bulletin 221-11/01-Retla Clauses – The effect on Club Cover, <https://www.ukpandi.com/fileadmin/uploads/ukpandi/Documents/imports/13108/bulletins/5388-bulletin-221.pdf> (Accessed: 02/12/2025)

or moisture. If the shipper so requests a substitute bill of lading will be issued omitting the above definition and setting forth any notations as to rust or moisture which may appear on the mate's or tally clerk's receipts"

However, there remains a risk in using such clauses as, whilst some courts in the United States may have upheld the clause, other U.S. courts and courts in other jurisdictions have not. The only safe means of avoiding claims arising from pre-shipment damage is to ensure that the bill of lading is claused to reflect the apparent order and condition of the goods at the time of loading.

Always safely afloat clause

In some ports it is a custom that vessels may touch the seabed while doing cargo operations. Even though the seabed is safe (seabed consists of mud or sand, bottom is even, no underwater obstructions etc.) to touch, there is a risk of damage to a vessel due to unforeseen causes.

This clause is used by ship owners to ensure charterers are not using any ports that there is a possibility of touching the bottom during the cargo operations to avoid risk of damage to ship's bottom. Therefore, master has a responsibility not go into any ports that there is a risk of touching the bottom if ordered by charterer.

Generally, the wording would be as "*. . . the vessel shall proceed to . . . or so near thereto as she may safely get and lie afloat . . . and being so loaded the vessel shall proceed to . . . or so near thereto as she may safely get and lie always afloat there deliver the cargo, . . .*"

Not always afloat but safely aground (NAABSA)

NAABSA clauses are usually incorporated to avoid charterers finding themselves in breach of the "always afloat" requirement in most charterparties where it is intended for the vessel to call at ports or places where, due to tidal conditions, she may touch bottom. NAABSA clauses in charterparties indicate owners' acceptance that such an event may occur.

NAABSA clauses must be read in conjunction with the general warranty of safety in the charterparty. Therefore, if the vessel's hull is damaged as a result of lying aground at a NAABSA berth, it may be possible to argue that charterers will have breached their obligation to nominate a safe port/berth where the vessel can lie safely aground. However, the success of such an argument will depend on a factual assessment of the characteristics of the berth. It must also be kept in mind that the master is required to exercise reasonable navigation and seamanship to ensure the safety of the ship⁹⁰.

⁹⁰ Varaprasad, P., 2020, NAABSA: Licence to sit on ground, Gard P&I, <https://gard.no/insights/naabsa-licence-to-sit-on-ground/> (Accessed: 04/12/2025)

Charterers prefer to have this clause into their charterparty so that if the vessel is to visit a port where she has to touch the bottom during the cargo operations, there will not be any delays and problems due to master's refusal to enter into such ports.

It is important to consider the wording of the NAABSA clauses incorporated into the charterparties. Some charterparties may incorporate the BIMCO NAABSA clause. This clause is more comprehensive, and owners retain a reasonable right to reject charterers' request to call at a NAABSA port. The clause also requires charterers to confirm in writing that a vessel will lie on a soft seabed without suffering damage and charterers must indemnify owners for any consequential losses suffered due to the vessel lying aground⁹¹.

If the vessel is ordered to go into a such port, master shall;

- make sure to check the charter party to identify the limits of responsibilities between the parties;
- make sure charts & publications are available & updated. Check the surveyed dates on them;
- check the depths available with publications, agents, port authorities etc.;
- check whether similar size vessels have visited the port;
- check the nature of the seabed, shape of the seabed etc.;
- check the tidal information;
- check whether dredging was done recently;
- with the aid of the owners may hire another company to scan the seabed before arrival;
- ensure that all officers, engineers & crew must be properly instructed;
- check soundings of double bottom tanks before touching the bottom;
- check the nature of the seabed before touching by means of echo sounders and hand lead & line.
- if possible reduce the trim to avoid unstable stability conditions of the vessel before touching the bottom;
- keep the steering motors off during the period of touching the bottom; and
- do not go in if there are reasons to believe that the port is not a safe port.

After using such a port, master shall;

- check the soundings of the double bottom tanks after refloating and make sure no change of sounding has taken place;
- make sure everything is fine in the engine room;
- make sure the rudder is working properly; and
- arrange an underwater survey if there is any doubt of damage to the vessel before she goes back to sea.

⁹¹ ibid

APPLICABLE MARITIME CONVENTIONS AND REGULATIONS IN SRI LANKA

Among other few conventions, Sri Lanka is not party to the following conventions, protocols and annexes of the conventions⁹² (as of 02/12/2025)

- SOLAS protocol 78
- Load line protocol 88
- SAR Convention 79
- MARPOL Annex VI
- Bunkers convention
- Antifouling convention 2001
- Ballast water convention 2004

Important Acts, Regulations and guidelines applicable to Sri Lankan ships and seafarers⁹³ (as of 02/12/2025)

- Merchant Shipping Act No. 52 of 1971
- Merchant Shipping (Amendment) Act No. 36 of 1988
- STCW'78 as amended – Merchant Shipping (Standards of Training, Certification and Watch Keeping for Seafarers) Regulations, 2016 – Gazette No.1987/19
- Marine Pollution Prevention Act, No.35 of 2008
- Carriage of Goods by Sea Act No. 21 of 1982
- MSN issued by the DGMS
- MLC 2006 – Merchant Shipping (Maritime Labour) Regulations, No. 11 of 2022 – Gazette No. 2292/18

Sri Lanka's main legislation with regards to merchant shipping is the Act. 52 of 1971. Further, according to the present legislation, Acts and the Gazettes are legally enforceable.

⁹² <https://www.imo.org/en/about/conventions/pages/statusofconventions.aspx> (Accessed: 02/12/2025)

⁹³ http://www.dgshipping.gov.lk/web/index.php?option=com_content&view=article&id=23&Itemid=132&lang=en
(Accessed: 02/12/2025)

**MASTER'S OBLIGATIONS IN ACCORDANCE WITH VARIOUS CONVENTIONS,
CODES & REGULATIONS**

A) Hague/Visby Rules

Article III

Responsibilities and liabilities

In accordance with this Article, the carrier shall be bound, before and at the beginning of the voyage, to exercise due diligence to:

- make the ship seaworthy;
- properly man, equip and supply the ship;
- make the holds, refrigeration and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage and preservation.

Exercise due diligence means in all respect the vessel shall be seaworthy to load, stow, secure the expected cargo, safely carry them and discharge. In exercising due diligence, a master shall:

- Make the vessel cargo worthy (ensure the valid documents are available to carry the cargo (Document of Compliance – carriage of dangerous goods in package form & in bulk, Document of authorization – carriage of grain in bulk, shipper's declarations – carriage of dangerous goods etc. holds are cleaned in as per the charterers instruction, heating systems & cooling systems are working in order.
- Ensure ship's certifications and documents apart from above are available and valid.
- Ensure the vessel is manned in accordance with the minimum safe manning document. Otherwise, shall have dispensation certificate.
- Make sure the officers and crew are properly instructed and trained.
- Ensure the vessel is having sufficient bunkers, spares and other things required for the expected voyage.
- Ensure the vessel is complying with the flag State approved stability requirements, load line requirements, navigational visibility range requirements and stresses are within the limits.
- Navigational charts and publications are valid, onboard and voyage is planned before the commencement of the voyage.
- Comply with the customary practices of the industry and charterers instructions in preserving the cargo during the carriage.

B) Safety of life at sea Convention (SOLAS)

Regulation 20, Chapter II-1

Loading of ships

On completion of loading of the ship and prior to departure, the master shall determine the ship's trim and stability and also ascertain and record that ship is upright and in compliance with stability criteria in relevant regulations.

Regulation 21, Chapter II-1

Periodical operation and inspection of watertight doors, etc., in passenger ships

Operational tests of watertight doors, side scuttles, valves and closing mechanisms of scuppers shall take place weekly. If the voyage exceeds one week in duration, this operational test to be conducted before the voyage commences and thereafter weekly during the voyage.

All watertight doors, both hinged and power-operated, in watertight bulkheads, in use at sea, shall be operated daily.

The watertight doors and all mechanisms and indicators connected therewith, all valves the closing of which is necessary to make a compartment watertight, and all valves the operation of which is necessary for damage control cross-connections shall be inspected at sea at least once a week.

A record of all operational tests and inspections shall be recorded in the logbook with an explicit record of any defects which may be disclosed.

Regulation 22, Chapter II-1

Prevention and control of water ingress, etc.

The master shall ensure that effective system of monitoring and reporting of the closing and opening of the following doors are implemented:

- Cargo loading doors in the shell or the boundaries of enclosed superstructures;
- Bow visors fitted in positions as indicated above;
- Cargo loading doors in the collision bulkhead; and
- Ramps forming an alternative closure to those defined in all above.

The master shall ensure, before any voyage commences, that an entry is made in logbooks of the time the doors are closed and opened.

Regulation 10, Chapter III

Manning of survival craft & supervision

The master shall ensure the equitable distribution of persons as mentioned below among the ship's survival crafts:

- Shall have sufficient number of trained persons onboard for mustering and assisting untrained persons;
- Shall have sufficient number of crew members, who may be deck officers or certificated persons, onboard for operating the survival craft and launching arrangement required for abandonment by the total number of persons onboard; and
- A deck officer or certified person shall be placed in charge of each survival craft to be used. However, the Administration, having due regard to
 - the nature of the voyage;
 - the number of persons onboard; and
 - the characteristics of the ship,may permit persons practiced in the handling and operation of life rafts to be placed in charge of life rafts in lieu of the deck officer or certified person mentioned above. A second-in-command shall also be nominated in the case of lifeboats.

Regulation 19, Chapter III

Drills

Abandon ship drill

An abandon ship drill shall be conducted at least once a **month**. It shall include:

- summoning of passengers and crew to muster stations with the alarm required, followed by drill announcement on the public address or other communication system;
- reporting to stations and adhering the duties assigned on the muster list;
- checking that passengers and crew are suitably dressed;
- checking that lifejackets are correctly donned;
- lowering of at least one lifeboat after any necessary preparation for launching;
- starting and operating the lifeboat engine;
- operation of davits used for launching life rafts;
- a mock search and rescue of passenger trapped in their staterooms;
- instruction in the use of radio life-saving appliances; and
- testing of emergency lighting available for mustering and abandonment

Except with freefall lifeboats, each lifeboat shall be launched and manoeuvred in the water by its assigned operating crew, at least once every three months during an abandon ship drill.

In the case of free-fall lifeboats, once every three months during an abandon ship drill the crew shall:

- board the lifeboat
- properly secure themselves in their seats and
- complete the launching procedure without actually releasing the lifeboat (release hook shall not be released)
- either be free-fall launched with only the operating crew or lowered into the water by means of the secondary means of launching with or without operating crew. In both cases, the lifeboat shall be manoeuvred in the water by the operating crew.

At least at intervals of six months, the lifeboat shall either be launched by free fall with only the operating crew, or simulated launching shall be carried out (refer MSC.1/Circ.1578 or the latest).

Administrations may allow ships operating on short international voyages not to launch the lifeboats **on one side** if their berthing arrangements and trading patterns do not permit launching lifeboats on that side. However, all such lifeboats shall be lowered at least every three months and launched at least annually.

As far as is reasonable and practicable, rescue boats other than life boats which are also rescue boats, shall be launched each month & manoeuvred with the assigned crew. In all cases this requirement shall be complied with at least once every three months.

Fire drills

A fire drill shall be conducted at least once a **month**. It shall include:

- reporting to stations and preparing for duties as listed in the muster list;
- starting of a fire pump, using at least two jets of water;
- checking of fireman's outfit and other personal rescue equipment;
- checking of relevant communication equipment;
- checking the operation of watertight doors, fire doors, fire dampers and main inlets and outlets of ventilation systems in the drill area; and
- checking the necessary arrangement for subsequent abandoning of the ship.

The equipment used during drills shall immediately be brought back to its fully operational condition and any defects discovered during the drills shall be remedied as soon as possible.

Enclosed space entry and rescue drill

Those who are responsible for entering into enclosed spaces and rescue operations shall participate in an enclosed space entry and rescue drill at least once every **two months**. It shall include:

- checking and use of personal proactive equipment required for entry;
- checking and use of communication equipment & procedures;
- checking and use of instructions for measuring the atmosphere in enclosed spaces;
- checking and use of rescue equipment and procedures; and
- instructions in first aid and resuscitation techniques.

Records

The date when musters are held, details of abandon ship drills and fire drills, enclosed space entry and rescue drills, drills of other life-saving appliances and onboard training shall be recorded in such logbook as may be prescribed by the Administration.

If a full muster, drill or training session is not held at the appointed time, an entry shall be made in the logbook stating the circumstances and the extent of the muster, drill or training session held.

Regulation 11, Chapter V

Ship reporting systems ⁹⁴

The master of a ship shall comply with the requirements of adopted ship reporting systems and report to the appropriate authority all information required in accordance with the provisions of such system (refer MSC. 43398 and Resolution A.851(20), as amended for further details).

Regulation 28, Chapter V

Records of navigational activities

All ships engaged on international voyages shall keep a record of navigational activities and incidents which are important to safety of navigation. It shall include sufficient information to restore a complete record of the voyage⁹⁵. If it is not maintained on a ship's logbook, it shall be in another form approved by the Administration.

⁹⁴ This does not address ship reporting systems established by Governments for search and rescue purposes, which are covered by chapter 5 of the 1979 SAR Convention, as amended

⁹⁵ Refer IMO, Resolution A.916 or the latest

Daily reporting

Each ship of 500 GT and above, engaged on international voyages exceeding 48 hrs, shall submit a daily report to its company. Daily reports may be transmitted by any means, provided that they are transmitted to the company as soon as practicable once the recorded position on the report is determined. Automated reporting systems may be used, provided that they include a recording function of their transmission and that those functions and interfaces with position-fixing equipment are subjected to regular verification by the ship's master. The report shall include:

- ship's position
- ship's course and speed; and
- details of any external or internal conditions that are affecting the ship's voyage or the normal safe operation of the ship

Regulation 31, Chapter V

Danger messages

Report to ships in the vicinity and to competent authorities when encountering:

- Dangerous ice or
- Dangerous derelict or any other direct danger to navigation or
- Tropical storm or
- Sub-freezing air temperature associated with gale force winds causing severe ice accretion on superstructures and
- Winds of force 10 or above for which no storm warning has been received

In addition to above following reporting became mandatory through **Resolution MSC.550(108)** of IMO with effect from 1st January 2026:

- Master shall report to ships around, nearest coastal state and the flag state if any containers are lost overboard. Company shall make this reporting if the vessel is abundant or if the message is incomplete. It shall include:
 - Ship's identity
 - Number of containers lost
 - Time of lost
 - Position lost
 - Whether 20 footer / 40 footer reefer
 - Type of goods / IMDG / Marine pollutants
 - Whether a cargo spillage had occurred
 - Wind, sea condition
- Master must report if any drifting containers are found to the flag.

Regulation 32, Chapter V

Subsequent observations

When a master has reported a tropical cyclone or other dangerous storm, it is desirable, but not obligatory, that further observations be made and transmitted hourly, if practicable, but in any case at intervals of not more than 3 hours, so long as the ship remains under the influence of the storm.

Regulation 33, Chapter V

Distress situations: obligations and procedures

Proceed for assisting distress people at sea without endangering the own ship and the crew. If any distressed persons are saved, treat them with humanity, within the capabilities and limitations of the ship. The masters of ships shall be released from this obligation:

- On learning that their ships have not been requisitioned and that one or more other ships have been requisitioned and are complying with the requisition. If it is possible, this decision shall be communicated to the other requisitioned ships and to the search and rescue service: or
- If the master is informed by the persons in distress or by the search and rescue service or by the master of another ship which has reached such persons and that assistance is no longer necessary.

If the ship receiving the distress alert is unable or, in special circumstances of the case, considers it unreasonable or unnecessary to proceed to their assistance, the master must enter in the logbook the reason for failing to proceed to the assistance of the persons in distress, taking into account the recommendation of the IMO to inform the appropriate search and rescue services accordingly.

The master of a ship in distress or the search and rescue service concerned, after consultation, so far as may be possible, with the masters of ships which answer the distress alert, has the right to requisition one or more of those ships. It shall be the duty of the master or masters of the ship or ships requisitioned to comply with the requisition by continuing to proceed with all speed to the assistance of persons in distress.

Regulation 34, Chapter V

Safe navigation and avoidance of dangerous situations

Before proceeding to sea ensure that the intended voyage is planned using appropriate nautical charts & publications and it is safe for the vessel [refer Resolution A.893(21) or the latest for further details). The voyage plan shall identify a route which:

- takes into account any relevant ship's routing systems;
- ensures sufficient sea room for the safe passage of the ship throughout the voyage;
- anticipates all known navigational hazards and adverse weather conditions; and
- takes into account the marine environmental protection measures that apply, and avoid, as far as possible, actions and activities which could cause damage to the environment.

Regulation 34-1, Chapter V

Master's discretion

Master has the overriding authority or executing any decision which, in the master's professional judgment, is necessary for the safety of life at sea and protection of the marine environment.

Regulation 7, Chapter VI

Loading, unloading and stowage of solid bulk cargoes

Before a solid bulk cargo is loaded or unloaded, the master and the terminal representative shall agree on a plan [refer BLU Code (Resolution A.862(20) as amended for further details] which shall ensure that the permissible forces and moments on the ship are not exceeded during loading or unloading, and shall include the sequence, quantity and rate of loading or unloading, taking into consideration the speed of loading or unloading, the number of pours and the de-ballasting or ballasting capability of the ship. The plan and any subsequent amendments thereto shall be lodged with the appropriate authority of the port State.

The master and the terminal representatives shall ensure the loading & unloading is going on according to the plan.

If during loading or unloading if the vessel is likely to become unseaworthy, the master has the right to suspend the operation. Thereafter, the master and the terminal representative shall ensure that a corrective action is taken. The master shall ensure that ship's personnel continuously monitor cargo operation.

Regulation 7-4, Chapter VII

Reporting of incidents involving dangerous goods

When an incident takes place involving the loss or likely loss overboard of dangerous goods in solid form in bulk into sea, the master, or other person in-charge, shall report the particulars of such an

incident without delay and to the fullest extent possible to the nearest coastal State (refer Resolution A.851(20) as amended for further details).

Regulation 8, Chapter XI-2

Master's discretion for ship safety and security

- Master has overriding authority executing any decision in accordance with the master's professional judgment to maintain the safety & security of the ship.
- If, in the professional judgement of the master, if there is a conflict between safety and security requirements, master shall ensure to give priority to safety of the ship. In such cases, the master may implement temporary security measures and inform the Administration & port state.

Other miscellaneous areas of SOLAS

Apart from above master is also responsible to ensure that:

- Applicable certificates (such as SMC, ISSC, Cargo Ship Safety Construction Certificate, Cargo Ship Safety Equipment Certificate, Cargo Ship Safety Radio Certificate etc) and documents (such as intact stability data, minimum safe manning document, LSA & FFA training manuals, training & drill records, cargo securing manual, copy of DOC etc.) are valid and onboard.
- The vessel is maned in accordance with the minimum safe manning document.
- To implement SMS onboard, ensure it is followed by others and review SMS periodically.
- The equipment and other things come under Form C, Form E, Form R etc. are maintained, and necessary surveys are completed.

C) The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW)

Para 2, Regulation VIII/2, Chapter VIII

Watchkeeping arrangements and principles to be observed

Administrations shall require the master of every ship to ensure that watchkeeping arrangements are adequate for maintaining a safe watch or watches, taking into account the prevailing circumstances and conditions and that, under the master's general direction:

- officers in charge of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they shall be physically present on the navigating bridge or in a directly associated location such as the chartroom or bridge control room at all times;

- radio operators are responsible for maintaining a continuous radio watch on appropriate frequencies during their periods of duty;
- officers in charge of an engineering watch, as defined in the STCW Code, under the direction of the chief engineer officer, shall be immediately available and on call to attend the machinery spaces and, when required, shall be physically present in the machinery space during their periods of responsibility;
- an appropriate and effective watch or watches are maintained for the purpose of safety at all times, while the ship is at anchor or moored and, if the ship is carrying hazardous cargo, the organization of such watch or watches takes full account of the nature, quantity, packing and stowage of the hazardous cargo and of any special conditions prevailing on board, afloat or ashore; and
- as applicable, an appropriate and effective watch or watches are maintained for the purposes of security.

Section A-VIII/1, Chapter VIII

Fitness for duty

- Comply with work and rest hour requirements
- Musters, fire-fighting and lifeboat drills, and other drills shall be conducted in a manner that minimizes the disturbance of rest periods and does not induce fatigue.
- Watch schedules to be posted where they are easily accessible
- Records of daily hours of rest of seafarers to be maintained and an endorsed copy of the same to be given to seafarers
- Shall establish a limit of not greater than 0.05% blood alcohol level (BAC) or 0.25 mgI⁻¹ alcohol in the breath or a quantity of alcohol leading to such alcohol concentration for masters, officers and other seafarers while performing designated safety, security and marine environmental duties.

Section A-VIII/2, Chapter VIII

Watchkeeping arrangements and principles to be observed

Part 1 - Certification

The officer in charge of the navigational or deck watch shall be duly qualified in accordance with the provisions of chapter II or chapter VII appropriate to the duties related to navigational or deck watchkeeping.

The officer in charge of the engineering watch shall be duly qualified in accordance with the provisions of chapter III or chapter VII appropriate to the duties related to engineering watchkeeping.

Part 2 - Voyage planning

General requirements

The intended voyage shall be planned in advance, taking into consideration all pertinent information, and any course laid down shall be checked before the voyage commences.

The chief engineer officer shall, in consultation with the master, determine in advance the needs of the intended voyage, taking into consideration the requirements for fuel, water, lubricants, chemicals, expendable and other spare parts, tools, supplies and any other requirements.

Planning prior to each voyage

Prior to each voyage, the master of every ship shall ensure that the intended route from the port of departure to the first port of call is planned using adequate and appropriate charts and other nautical publications necessary for the intended voyage, containing accurate, complete and up-to-date information regarding those navigational limitations and hazards which are of a permanent or predictable nature and which are relevant to the safe navigation of the ship.

Verification and display of planned route

When the route planning is verified, taking into consideration all pertinent information, the planned route shall be clearly displayed on appropriate charts and shall be continuously available to the officer in charge of the watch, who shall verify each course to be followed prior to using it during the voyage.

Deviation from planned route

If a decision is made, during a voyage, to change the next port of call of the planned route, or if it is necessary for the ship to deviate substantially from the planned route for other reasons, then an amended route shall be planned prior to deviating substantially from the route originally planned.

Part 3 - Watchkeeping principles in general

Watches shall be carried out based on the following bridge and engine-room resource management principles:

- proper arrangements for watchkeeping personnel shall be ensured in accordance with the situations;
- any limitation in qualifications or fitness of individuals shall be taken into account when deploying watchkeeping personnel;
- understanding of watchkeeping personnel regarding their individual roles, responsibility and team roles shall be established;
- the master, chief engineer officer and officer in charge of watch duties shall maintain a proper watch, making the most effective use of the resources available, such as information, installations/equipment and other personnel;
- watchkeeping personnel shall understand functions and operation of installations/equipment, and be familiar with handling them;
- watchkeeping personnel shall understand information and how to respond to information from each station/installation/equipment;
- information from the stations/installations/equipment shall be appropriately shared by all the watchkeeping personnel;
- watchkeeping personnel shall maintain an exchange of appropriate communication in any situation; and
- watchkeeping personnel shall notify the master/chief engineer officer/officer in charge of watch duties without any hesitation when in any doubt as to what action to take in the interest of safety.

Part 4 - Watchkeeping at sea

Principles applying to watchkeeping generally

- Parties shall direct the attention of companies, masters, chief engineer officers and watchkeeping personnel to the following principles, which shall be observed to ensure that safe watches are maintained at all times.
- The master of every ship is bound to ensure that watchkeeping arrangements are adequate for maintaining a safe navigational or cargo watch. Under the master's general direction, the officers of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding.
- The chief engineer officer of every ship is bound, in consultation with the master, to ensure that watchkeeping arrangements are adequate to maintain a safe engineering watch.

Protection of marine environment

The master, officers and ratings shall be aware of the serious effects of operational or accidental pollution of the marine environment and shall take all possible precautions to prevent such pollution, particularly within the framework of relevant international and port regulations.

Part 4-1 - Principles to be observed in keeping a navigational watch

Watch arrangements

When deciding the composition of the watch on the bridge, which may include appropriately qualified ratings, the following factors, inter alia, shall be taken into account:

- at no time shall the bridge be left unattended;
- weather conditions, visibility and whether there is daylight or darkness;
- proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties;
- use and operational condition of navigational aids such as ECDIS, radar or electronic position indicating devices and any other equipment affecting the safe navigation of the ship;
- whether the ship is fitted with automatic steering;
- whether there are radio duties to be performed;
- unmanned machinery space (UMS) controls, alarms and indicators provided on the bridge, procedures for their use and their limitations; and
- any unusual demands on the navigational watch that may arise as a result of special operational circumstances.

Watchkeeping under different conditions and in different areas

In hours of darkness

The master and the officer in charge of the navigational watch, when arranging lookout duty, shall have due regard to the bridge equipment and navigational aids available for use, their limitations, procedures and safeguards implemented.

Coastal and congested waters

The largest scale chart on board, suitable for the area and corrected with the latest available information, shall be used. Fixes shall be taken at frequent intervals, and shall be carried out by more than one method whenever circumstances allow. When using ECDIS, appropriate usage code (scale) electronic navigational charts shall be used and the ship's position shall be checked by an independent means of position fixing at appropriate intervals.

Navigation with pilots on board

Despite the duties and obligations of pilots, their presence on board does not relieve the master or the officer in charge of the navigational watch from their duties and obligations for the safety of the ship. The master and the pilot shall exchange information regarding navigation procedures, local conditions and the ship's characteristics. The master and/or the officer in charge of the navigational watch shall co-operate closely with the pilot and maintain an accurate check on the ship's position and movement.

Ship at anchor

If the master considers it necessary, a continuous navigational watch shall be maintained at anchor.

Part 4-3 - Principles to be observed in keeping a radio watch

Watch arrangements

In deciding the arrangements for the radio watch, the master of every seagoing ship shall:

- ensure that the radio watch is maintained in accordance with the relevant provisions of the Radio Regulations and the SOLAS Convention;
- ensure that the primary duties for radio watchkeeping are not adversely affected by attending to radio traffic not relevant to the safe movement of the ship and safety of navigation; and
- take into account the radio equipment fitted on board and its operational status.

Part 5 - Watchkeeping in port

Principles applying to all watchkeeping

General

On any ship safely moored or safely at anchor under normal circumstances in port, the master shall arrange for an appropriate and effective watch to be maintained for the purpose of safety. Special requirements may be necessary for special types of ships' propulsion systems or ancillary equipment and for ships carrying hazardous, dangerous, toxic or highly flammable materials or other special types of cargo.

Watch arrangements

- Arrangements for keeping a deck watch when the ship is in port shall at all times be adequate to:
 - ensure the safety of life, of the ship, the port and the environment, and the safe operation of all machinery related to cargo operation;
 - observe international, national and local rules; and
 - maintain order and the normal routine of the ship.
- The master shall decide the composition and duration of the deck watch depending on the conditions of mooring, type of the ship and character of duties.
- If the master considers it necessary, a qualified officer shall be in charge of the deck watch.

Part 5-5 - Watch in port on ships carrying hazardous cargo

General

The master of every ship carrying cargo that is hazardous, whether explosive, flammable, toxic, health threatening or environment-polluting, shall ensure that safe watchkeeping arrangements are maintained. On ships carrying hazardous cargo in bulk, this will be achieved by the ready availability on board of a duly qualified officer or officers, and ratings where appropriate, even when the ship is safely moored or safely at anchor in port.

On ships carrying hazardous cargo other than in bulk, the master shall take full account of the nature, quantity, packing and stowage of the hazardous cargo and of any special conditions on board, afloat and ashore.

Part B of the Code

Following are from the Part B of the STCW Code. Remember, Part B of the Code is not compulsory, but for guidance only.

Para 4, Section B-1/14, Chapter I

Guidance regarding responsibilities of companies and recommended responsibilities of masters and crew members

Master

The master should take all steps necessary to implement any company instructions issued in accordance with section A-1/14. Such steps should include:

- identifying all seafarers who are newly employed on board the ship before they are assigned to any duties;
- providing the opportunity for all newly arrived seafarers to:
 - visit the spaces in which their primary duties will be performed;
 - get acquainted with the location, controls and display features of equipment they will be operating or using;
 - activate the equipment when possible, and perform functions, using the controls on the equipment; and
 - observe and ask questions of someone who is already familiar with the equipment, procedures and other arrangements, and who can communicate information in a language which the seafarer understands; and
- providing for a suitable period of supervision when there is any doubt that a newly employed seafarer is familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of his or her duties.

Para 5.3, Section B-II/1, Chapter II

Guidance regarding the certification of officers in charge of a navigational watch on ships of 500 gross tonnage or more

Roles and responsibilities

The master's responsibilities should be to:

- provide the link between the shipboard training officer and the company training officer ashore;
- fulfil the role of continuity if the shipboard training officer is relieved during the voyage; and
- ensure that all concerned are effectively carrying out the onboard training programme.

Para 10, Section B-II/1, Chapter II

Monitoring and reviewing

The training record book should be scrutinized and endorsed formally by the master and the shipboard training officer at the beginning, during and at the end of each voyage.

Para 9, Section B-V/1, Chapter V

Guidance regarding the training and qualifications of tanker personnel

Proof of qualification

The master of every oil, chemical and liquefied gas tanker should ensure that the officer or the person primarily responsible for the cargo possesses the appropriate certificate, issued or endorsed or validated as required by regulation V/1-1, paragraph 3; regulation V/1-1, paragraph 5 or regulation V/1-2, paragraph 3, as appropriate, and has had adequate recent practical experience on board an appropriate type of tanker to permit that officer or person to safely perform the duties assigned.

D) International Convention for the prevention of pollution from ships (MARPOL)

Article I, Protocol I

Duty to report

The master involved in an incident referred to Article II (below) shall report the particulars of such incident without delay and to the fullest extent possible.

If the vessel involved with above is abandoned, or in the event of a report from such a ship being incomplete or unobtainable, the owner, charterer, manager or operator of the ship, or their agent shall send the above report.

Article II, Protocol I

When to make reports

- 1) The report shall be made when an incident involves:
 - a) a discharge above the permitted level or probable discharge of oil or of noxious liquid substances for what ever reason including those for the purpose of securing the safety of the ship or for saving life at sea; or
 - b) a discharge or probable discharge of harmful substances in package form, including those in freight containers, portable tank, road and rail vehicles and shipborne barges; or
 - c) damage, failure or breakdown of a ship of 15 m in length or above which:
 - i) affects the safety of the ship; including but not limited to collision, grounding, fire, explosion, structural failure, flooding and cargo shifting; or

- ii) results in impairment of the safety of navigation; including but not limited to, failure or breakdown of steering, propulsion plant, electrical generating system, and essential shipborne navigational aids; or
- d) a discharge during the operation of the ship of oil or noxious liquid substances in excess of the quantity or instantaneous rate permitted under the present Convention.

Annex I, Para 4.3, Regulation 6, Chapter 2

Whenever an accident occurs to a ship or a defect is discovered which substantially affects the integrity of the ship or the efficiency or completeness of its equipment covered by the Annex I, the master or owner of the ship shall report at the earliest opportunity to the Administration, the recognized organization or the nominated surveyor responsible for issuing the relevant Certificate, who shall cause investigations to be initiated to determine whether a survey is required.

If the ship is in a port of another Party, the master or owner shall also report immediately to the appropriate authorities of the port State and the nominated surveyor or recognized organization shall ascertain that such report has been made.

Para 4, Regulation 17, Annex I

With regards to the Oil Record Book Part I, each completed operation shall be signed by the officer or officers in charge of the operation and each completed page or group of electronic entries⁹⁶ shall be signed by the master of the ship⁹⁷.

Para 5, Regulation 36, Annex I

With regards to the Oil Record Book Part II, each completed operation shall be signed by the officer or officers in charge of the operation and each completed page or group of electronic entries⁹⁸ shall be signed by the master of the ship.

⁹⁶ Refer IMO, Resolution MEPC.312(74) or the latest for further details

⁹⁷ Refer IMO, MEPC.1/Circ.736/Rev.2 or the latest for further details

⁹⁸ Refer IMO, Resolution MEPC.312(74) or the latest for further details

Para 4, Regulation 15, Annex II

With regards to the Cargo Record Book, each completed operation shall be signed by the officer or officers in charge of the operation and each completed page or group of electronic entries⁹⁹ shall be signed by the master of the ship.

Other miscellaneous areas of MARPOL

- Applicable valid certificates (such as IOPP certificate, NLS certificate, International sewage pollution prevention certificate, IAPP certificate etc.) and documents (such as Oil record books, garbage management plans, garbage record books, SOPEP, SEEMP etc.) are onboard.
- Comply with the discharge and management criteria of marine pollutants.
- Ensure appropriate records are maintained.
- Train onboard staff and conduct drills onboard.
- Equipment are maintained, and necessary surveys are completed.
- Comply with operational requirements with regards to STS operations.

E) International Convention on Salvage, 1989

Article 6

Salvage contracts

- 2) The master shall have the authority to conclude contracts for salvage operations on behalf of the owner of the vessel. The master or the owner of the vessel shall have the authority to conclude such contracts on behalf of the owner of the **property on board** the vessel.

Article 8

Duties of the salvor and of the owner and master

- 1) (d) to accept the intervention of other salvors when reasonably requested to do so by the owner or master of the vessel or other property in danger; provided however that the amount of his reward shall not be prejudiced should it be found that such a request was unreasonable.

⁹⁹ ibid

- 2) The owner and master of the vessel or the owner of other property in danger shall owe a duty to the salvor:
 - a) to co-operate fully with him during the course of the salvage operations;
 - b) in so doing, to exercise due care to prevent or minimize damage to the environment; and
 - c) when the vessel or other property has been brought to a place of safety, to accept redelivery when reasonably requested by the salvor to do so.

Article 10

Duty to render assistance

- 1) Every master is bound, so far as he can do so without serious danger to his vessel and persons thereon, to render assistance to any person in danger of being lost at sea.
- 2) The States Parties shall adopt the measures necessary to enforce the duty set out in paragraph 1.
- 3) The owner of the vessel shall incur no liability for a breach of the duty of the master under paragraph 1.

F) United Nations Law of the Sea – III (UNCLOS III)

Article 98

Duty to render assistance

Every State shall require the master of a ship flying its flag, in so far as he can do so without serious danger to the ship, the crew or the passengers:

- a) to render assistance to any person found at sea in danger of being lost;
- b) to proceed with all possible speed to the rescue of persons in distress, if informed of their need of assistance, in so far as such action may reasonably be expected of him;
- c) after a collision, to render assistance to the other ship, its crew and its passengers and, where possible, to inform the other ship of the name of his own ship, its port of registry and the nearest port at which it will call.

G) Convention for the Unification of Certain Rules of Law with respect to Collisions between Vessels (Brussels, 1910)

Article 8

After a collision, the master of each of the vessels in collision is bound, so far as he can do so without serious danger to his vessel, her crew and her passengers, to render assistance to the other vessel, her crew and her passengers.

He is likewise bound so far as possible to make known to the other vessel the name of his vessel and the port to which she belongs, and also the names of the ports from which she comes and to which she is bound.

A breach of the above provisions does not of itself impose any liability on the owner of a vessel.

H) Maritime Labour Convention (MLC) 2006

- Need to have a good knowledge about most of the areas covered in DMLC Part I, which includes but not limited to exceptions granted, substantial equivalences granted, work that may jeopardize the health & safety of young seafarers, night work applicable for young seafarers etc.
- All seafarers onboard shall have valid medical certificates in accordance with the duties they are required to perform.
- Make sure the seafarers are trained, certified and qualified as competent to perform their assigned duties onboard. Note the points below, with regards to this requirement:
 - In accordance with the STCW Code all the seafarers are required to have undergone the four basic courses.
 - In accordance with the STCW Code seafarers are required to be competent &/or qualified to carry out the tasks and duties that they are assigned for.
 - In accordance with the MLC 2006, ship's cooks shall:
 - be 18 years or more in age
 - possess a certificate issued by a competent authority
- Make sure that all the seafarers have successfully completed onboard personal safety familiarization.
- Ensure the minimum age of seafarers shall be not less than 16 years of age.
- Ensure no “**night work**” or “**work is likely to jeopardize health or safety**” are not delegated to seafarers under the age of 18 years. In accordance with the Convention, “night” shall cover a period of at least nine hours starting no later than midnight and ending no earlier than 5 A. M.
 - Refer the “**minimum age**” regulations on DMLC Part I for the flag specific definition of “**night**” and “**work is likely to jeopardize health or safety**”.

- An exception to compliance with the “night work” restriction may be made by the flag state when:
 - If the effective training of such seafarers in accordance with training programme is impaired or
 - If the training programme or specific nature of the duty requires to perform duties at night and the flag states has decided after consultation with the shipowners & seafarer’s organizations concerned, that such work will not be detrimental to seafarer’s health or well-being.

- Records of all the results of inspections carried out with regards to the Convention, deficiencies found, and the dates rectified, shall be maintained onboard and ensure they are available to;
 - Seafarers
 - Flag state inspectors
 - PSC officers
 - Shipowner &
 - Seafarer’s representatives

- Two copies of reports will be provided to the master after flag state inspections and one of them shall be posted on the ship’s notice board.
- Copy of the current valid ML Certificate and DMLC shall be posted in a common place onboard.
- Complaint procedures onboard:
 - Complaint procedures shall be available onboard.
 - Such procedures shall seek to resolve complaints at the lowest level possible, but, seafarers have rights to complain directly to the master or if they consider necessary, may complain to external authorities.
 - A seafarer shall have rights to accompany a colleague while making a complaint.
 - Shall not take any adverse actions with respect to lodging a complaint which is not manifestly vexatious or maliciously made.
 - All the seafarers onboard shall be provided with a copy of the complaint procedure.
 - Complaint procedure shall include the contact information of the competent authority in the flag state and if the seafarer’s country of residence is different, shall include the name of a person or persons onboard the vessel that can assist seafarers with regards to the complaint confidentially.

- Make sure the Medical care certificate of the person who is responsible for onboard medical care is valid in accordance with the flag state requirements.
- With regards to wages of the seafarers:
 - Ensure they are being paid in accordance with the Seafarer Employment Agreement at least at monthly intervals.
 - Ensure no un-authorized deductions are made.

- A pay slip or wages slip shall be given to seafarers indicating monthly wages and authorized deductions.
- The food onboard must be in good quality with nutritional value for seafarers, in sufficient quantities and it shall respect the religious and cultural beliefs of the seafarers as well.
- Ensure the drinking water is in good quality and shall maintain records of drinking water tests carried out.
- Information on food and drinking water safety reports should be readily available to members of the crew.
- Accommodation, provision rooms, cold room and galley inspections to be carried out in accordance with the flag state requirements. In accordance with MLC 2006, provision rooms, cold room and galley inspections to be carried by the master or by a person authorized by the master. The results of this inspection to be recorded in the official record book.
- When situations demand allow seafarers to visit qualified medical doctors or dentists in ports of call if practicable, at the shipowner's cost.
- There must be onboard procedures in place for taking radio or satellite medical advice.
- Shall have a safety committee if there are five or more seafarers onboard and ensure the responsibilities and duties of the seafarers appointed as safety representatives are specified.
- Ensure a risk assessment procedure is available and risk assessments are carried out.
- Make sure sufficient numbers of personal protective equipment are available to seafarers onboard.
- Ensure an accident reporting procedure is available onboard.
- Seafarers have a right to be repatriated within 12 months after the commencement of work, but, they may continue beyond the said period depending upon the requirements of the flag state regulations.

D) Convention for the suppression of unlawful acts of violence against the safety of maritime navigation (SUA Convention)

Article 8

- 1) The master of a ship flying the flag of a State Party may deliver to the authorities of any other State Party (receiving State) any person who he has reasonable grounds to believe has committed one of the following offences as set forth in Article 3.
 - a) seizes or exercises control over a ship by force or threat thereof or any other form of intimidation; or
 - b) performs an act of violence against a person on board a ship if that act is likely to endanger the safe navigation of that ship; or
 - c) destroys a ship or causes damage to a ship or to its cargo which is likely to endanger the safe navigation of that ship; or

- d) places or causes to be placed on a ship, by any means whatsoever, a device or substance which is likely to destroy that ship, or cause damage to that ship or its cargo which endangers or is likely to endanger the safe navigation of that ship; or
 - e) destroys or seriously damages maritime navigational facilities or seriously interferes with their operation, if any such act is likely to endanger the safe navigation of a ship; or
 - f) communicates information which he knows to be false, thereby endangering the safe navigation of a ship; or
 - g) injures or kills any person, in connection with the commission or the attempted commission of any of the offences set forth in subparagraphs (a) to (f).
- 2) The flag State shall ensure that the master of its ship is obliged, whenever practicable, and if possible before entering the territorial sea of the receiving State carrying on board any person whom the master intends to deliver in accordance with paragraph 1, to give notification to the authorities of the receiving State of his intention to deliver such person and the reasons therefor.
 - 4) The flag State shall ensure that the master of its ship is obliged to furnish the authorities of the receiving State with the evidence in the master's possession which pertains to the alleged offence.

J) Load line Convention

- Approved stability information and equipment onboard.
- Valid International Load Line certificate or International Load Line Exemption Certificate is onboard.
- Ship is not overloaded and has adequate reserve buoyancy.
- Stresses of the ship is within the limits.
- Ship's watertight & weather tight integrity, safe access to the vessel and other things that comes under the load line regulations are maintained and surveys conducted.

MASTER'S OBLIGATIONS IN ACCORDANCE WITH VARIOUS RESOLUTIONS & GUIDELINES

A) Introduction and establishment of Maritime Assistance Service (MAS)¹⁰⁰

MAS means a maritime assistance service, as described in resolution A.950(23), responsible for receiving reports in the event of incidents and serving as the point of contact between the shipmaster and the authorities of the coastal State in the event of an incident¹⁰¹.

Coastal States should establish a maritime assistance service (MAS) for the purpose of:

- a) receiving the reports, consultations and notifications required by the IMO instruments;
- b) monitoring the ship's situation if a report, as referred to in paragraph (a) above, discloses an incident that may cause the ship to be in need of assistance;
- c) serving as the point of contact between the master and the coastal State concerned, if the ship's situation requires exchanges of information between the ship and the coastal State but is not a distress situation that could lead to a search and rescue operation;
- d) serving as the point of contact between those involved in a marine salvage operation undertaken by private facilities at the request of parties having a legitimate interest in the ship and the coastal State, if the coastal State concerned decides that it should monitor all phases of the operation,

MAS may not be a new organization. Administrations may incorporate the duties of a MAS to existing facilities such as MRCC, or harbour master's office, a coast guard operations centre or another body.

MAS does not provide any services for search and rescue of persons. In an evolving situation, if the persons onboard find themselves in distress, the involvement of MRCC is more important than involvement of MAS.

B) Actions required of masters involved with ships in need of assistance seeking a place of refuge¹⁰²

Place of refuge means a place where a ship in need of assistance can take action to enable it to stabilize its condition and reduce the risks to navigation, and to protect human life and the environment.

¹⁰⁰ Refer IMO, Resolution A.950(23) or the latest for further details

¹⁰¹ Refer IMO, Resolution A.1184(33) or the latest for further details

¹⁰² Refer IMO Resolution A.1184(33) or the latest for further details

In the event of any maritime incident, the ship's master and/or the salvor are responsible for contacting the appropriate Maritime Assistance Services (MAS), as designated in each State, to report the incident and initiate the necessary follow-up actions.

Lists of MAS and MRCCs can be found in the Global Integrated Shipping Information System (GISIS)¹⁰³, under the MAS section of the Contact Points module and the RCC section of the Global SAR Plan module, respectively (Compiler's note – This could be found in ship's emergency manuals or list of emergency contacts or in a similar document which is included in the ship's SMS).

The master of a ship to which the provisions of the International Safety Management (ISM) Code are applicable should, in accordance with that Code, inform the company of any incident or accident which occurs at sea. As soon as it has been informed of such a situation, the company should contact the competent coastal station and place itself at its disposal as necessary.

The master has command of the ship and remains in command of the ship even when a salvage operation is under way. The master may decide to relinquish command, after which command is assumed by the salvor.

Requesting a place of refuge – process

When a decision has been taken by the party in charge of the ship to make a formal place of refuge request, without prejudice to the CA's (*Competent Authority* means an authority in a State, depending on the internal structure of that State, having the required expertise and the power to take independent decisions as regards the accommodation of a ship in a place of refuge) right to take the decision, the following process should be followed.

The formal request should be made in writing via electronic transmission and should include Form A (appendix to section 2 – refer the Resolution). Any other information that the CA might require, for example to ensure compliance with local legislation, such as cargo manifests, stowage plans and the salvor's outline salvage plan, should also be forwarded with Form A.

The formal request for a place of refuge should be transmitted by the master, using the fastest means available, to the CA or MAS, as applicable.

A formal request for a place of refuge may also be made by:

- a ship operator / company designated person ashore / contracted salvor; and
- any other person who is in charge of the ship at the time and is recognized by national law.

¹⁰³ <https://gis.imo.org/public/default.aspx>

Unless in extremis, formal requests should be made to one CA only, through the national point of contact (MAS), and should not be forwarded directly to ports or harbours, unless agreed with the MAS and CA. The CA should always be informed if a third party was involved.

Simultaneous requests to other CAs or MAS should be avoided.

C) Guidelines on the control of ships in an emergency¹⁰⁴

Compiler's note : Mainly you need to understand the point 6 below. Points 4 & 5 are added as point 6 refers to them.

4) General guidance

4.3 The ISM Code, section 5, Master's Responsibility and Authority, states that:

“The Company should establish in the safety management system that the Master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company's assistance as may be necessary.”

5) Guidelines for coastal states

5.5 Article 221 of UNCLOS recognizes the right of coastal States “pursuant” to international law, both customary and conventional, to take and enforce measures beyond the territorial sea proportionate to the actual or threatened damage to protect their coastline or related interests, including fishing, from pollution or threat of pollution following upon a maritime casualty, which may be reasonably expected to result in major harmful consequences. The right of States to intervene in the high seas to prevent or reduce pollution damage as a consequence is also regulated by the Intervention Convention. States may take measures beyond their territorial sea in accordance with customary international law of the sea.

5.6 States taking measures in accordance with paragraph 5.5 should indicate that they are doing so in accordance with UNCLOS, and/or the Intervention Convention [or international customary law as applicable through their national legislation. In doing so, States should follow the guidance in paragraph 5.4.

¹⁰⁴ Refer IMO, MSC.1/Circ.1251 or the latest for further details

6) Guidelines for masters

- 6.1 At the earliest possible stage in an emergency, the Master should inform the appropriate coastal State authorities, including that of the nearest coastal State, the flag State and the Company, of the nature of the emergency and what assistance is required.
- 6.2 Unless specifically instructed otherwise the Master has the authority and responsibilities specified in the ISM Code as in paragraph 4.3 above.
- 6.3 If the Company engages a salvor to attempt to save the ship, a contract will be signed which sets out the respective responsibilities of the parties involved. When a salvage Master has been appointed to supervise the salvaging of a ship, the Master should co-operate with the salvage Master to the maximum extent.
- 6.4 When a ship requiring assistance is in waters which are under the jurisdiction of a coastal State and that State has laws allowing it to intervene in an emergency and wishes to do so, then the Master should:
 - .1 ask for clarification as to who is exercising the coastal States powers;
 - .2 if necessary and time permits, speak with Company as in paragraph 4.3;
 - .3 seek clarification of the extent to which the Master can still exercise authority in relation to the operation and salvage of the ship;
 - .4 ask the coastal State for an expert assessment of the condition of the ship if in doubt about the actions being taken; and
 - .5 if still in doubt or in disagreement with the actions or instructions given by the coastal State, clearly state so.
- 6.5 If a State is intervening in accordance with paragraphs 5.5 and 5.6 when a ship is on the high seas, the guidance under paragraph 6.4 should be followed.
- 6.6 It is most important that a ship should keep the most accurate records of events possible. Where a VDR is fitted, the limitations of the period of time covered by its recording should be borne in mind. A separate chronological order of events should also be kept.

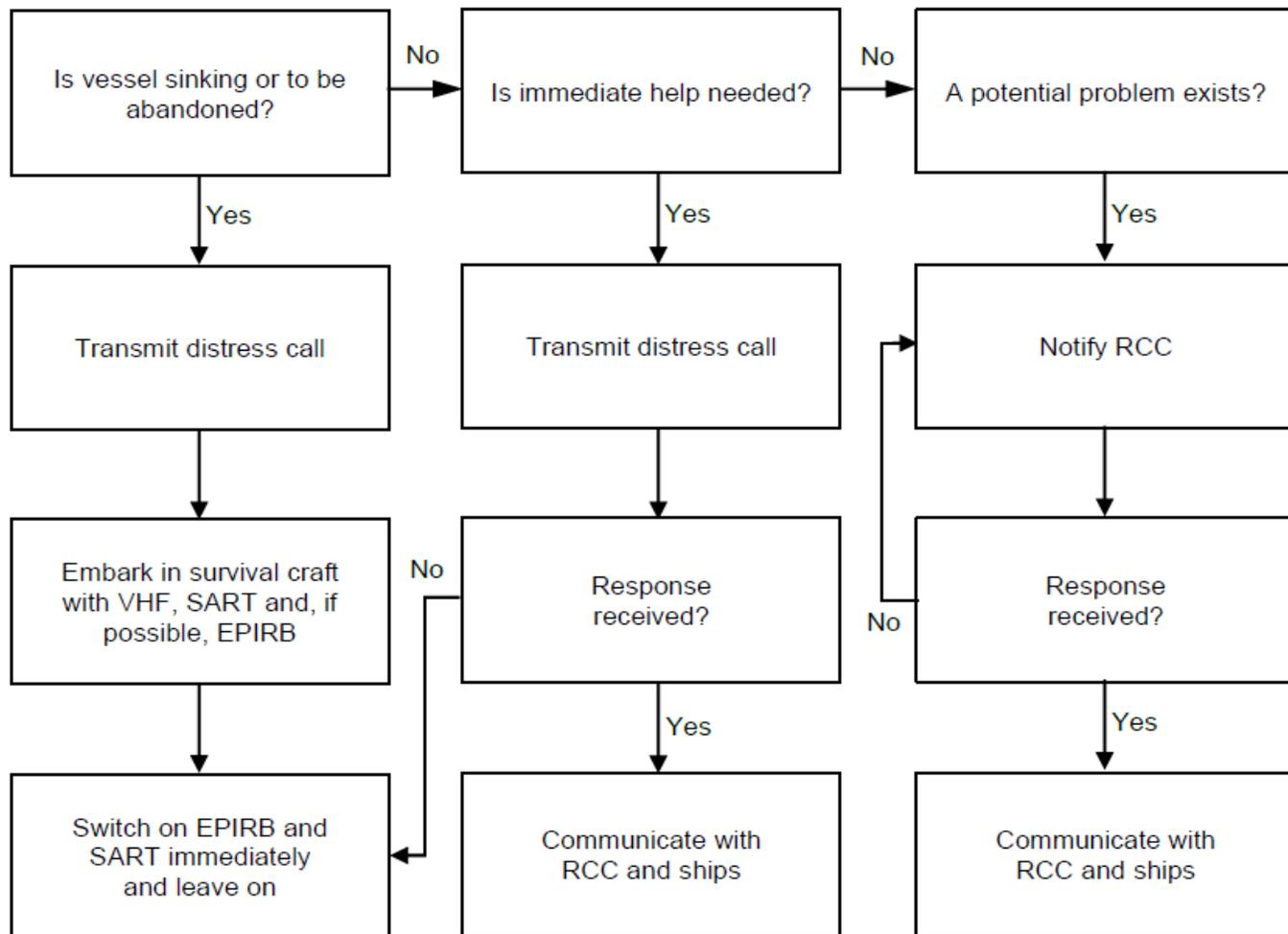
D) Guidance on alerting of search and rescue authorities¹⁰⁵

Operating guidance for ships in distress or urgency situations*

The following diagram shows standard procedures for distress/urgency message routing. It is for guidance only, and does not preclude the use of any and all available means of distress alerting.

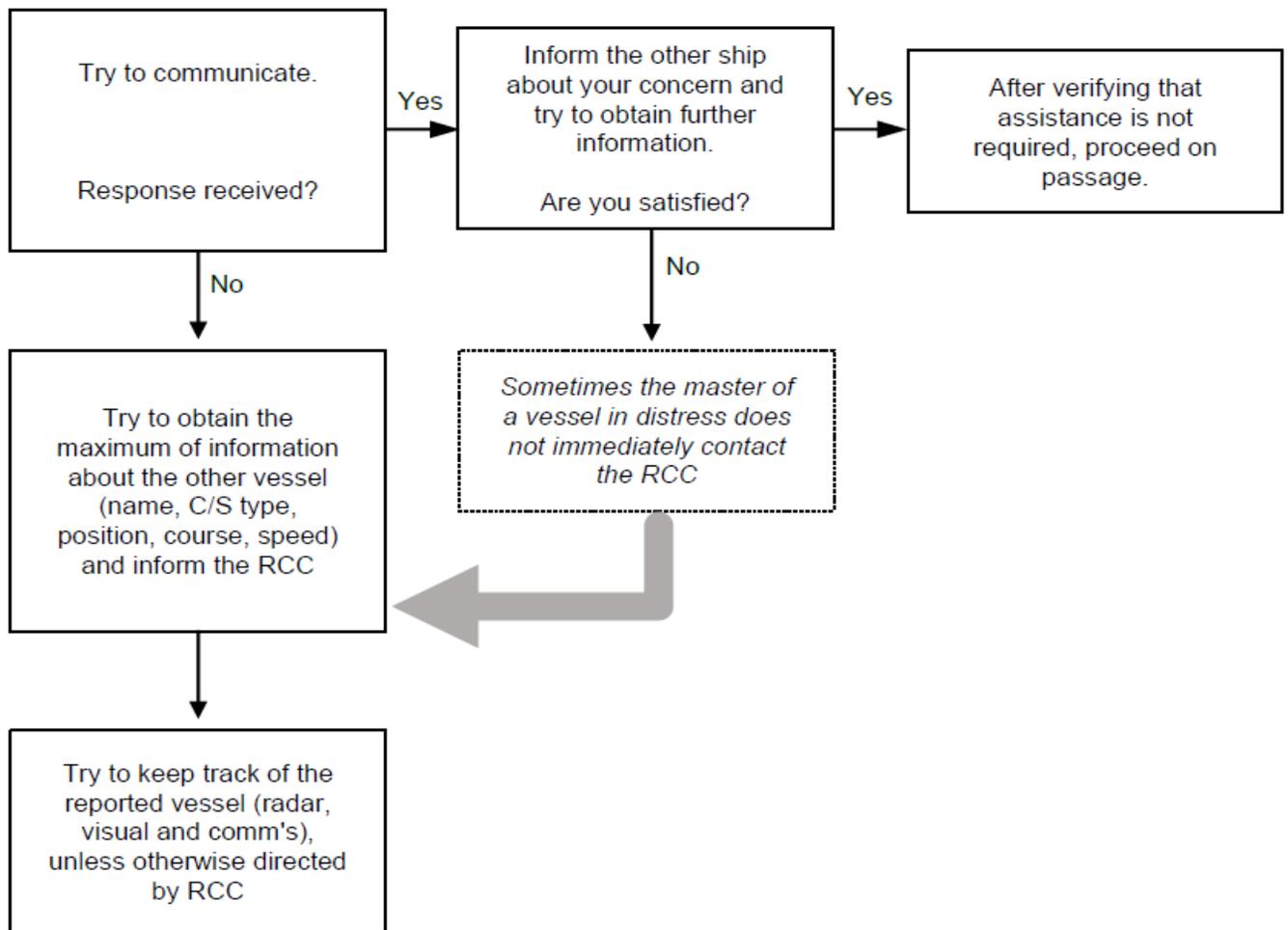
¹⁰⁵ Refer IMO, MSC.1/Circ.892/Rev.1 or the latest for further details

* To be referred along with MSC.1/Circ.1656 or the latest for further details (addressed below)

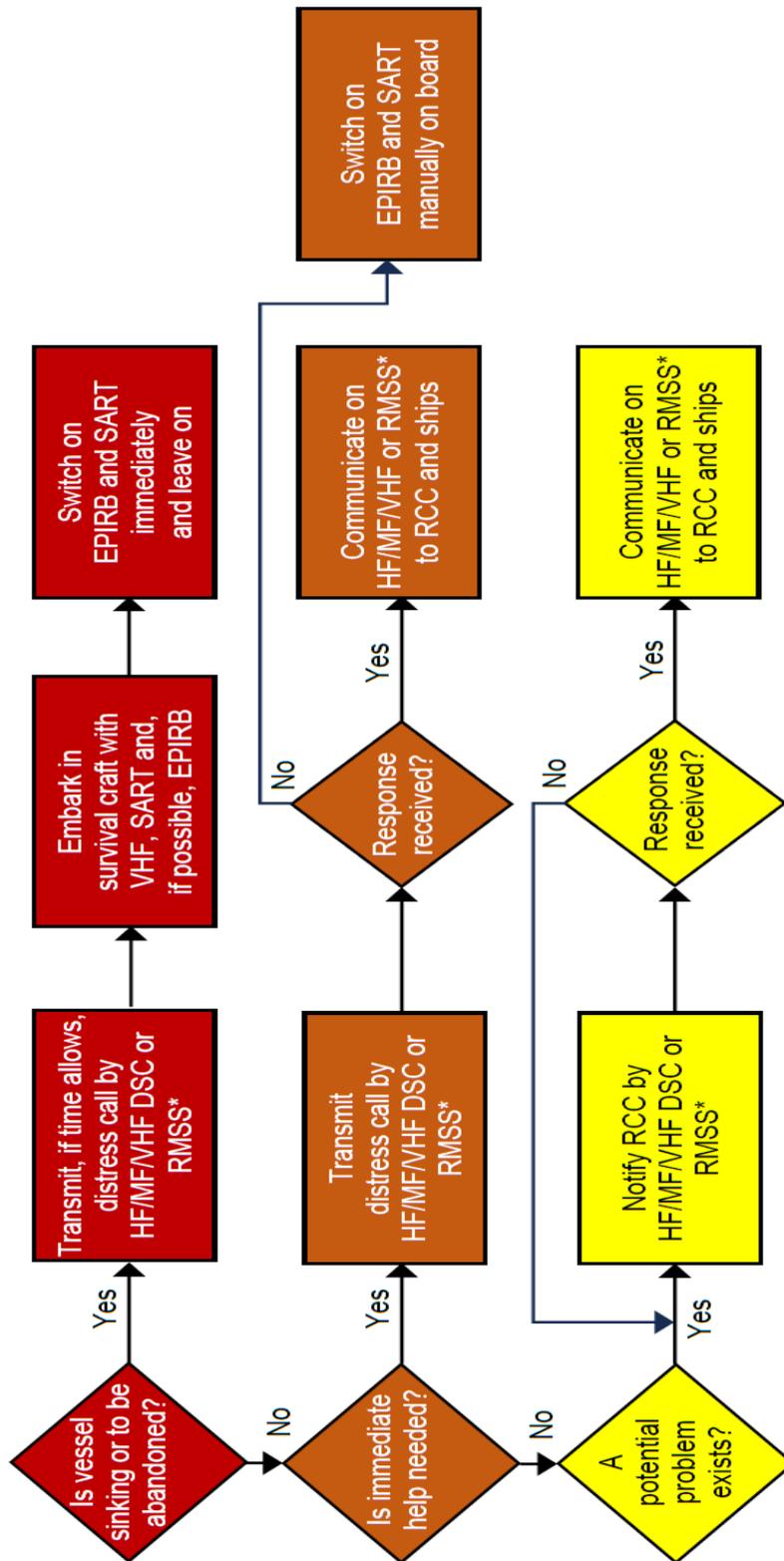


Operating guidance for ships observing another vessel apparently in danger

The following diagram shows suggested procedures for reporting concerns about the safety of another vessel (fire, smoke, adrift, navigating towards a danger, etc.).



E) GMDSS operating guidance for ships in distress situations¹⁰⁶



Frequencies for Distress Communications	
Digital selective calling (DSC)	Radiotelephone
VHF	Channel 70
MF	2 187.5 kHz
HF4	4 207.5 kHz
HF6	6 312.0 kHz
HF8	8 414.5 kHz
HF12	12 577.0 kHz
HF16	16 804.5 kHz

Recognized mobile satellite service

1. EPIRB should float free and activate automatically if it cannot be taken into survival craft.
2. Where necessary, ships should use any appropriate means to alert other ships.
3. Nothing above is intended to preclude the use of any and all available means of distress alerting, including those listed in COLREG 72, annex IV.

¹⁰⁶ Refer IMO, MSC.1/Circ.1656 or the latest for further details

F) General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants¹⁰⁷

Compiler's note - In common to all the Annexes, Article 2 of MARPOL Convention defines an 'incident' as an event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance.

Reporting of incidents involving dangerous goods

Coastal States and other interested parties to be informed without delay when any incident occurs involving the loss, or likely loss, overboard of packaged dangerous goods into the sea.

Reports should be transmitted to the nearest coastal State. When the ship is within or near an area for which a ship reporting system has been established, reports should be transmitted to the designated shore station of that system.

Compiler's notes - In case of a tanker which applies Annex II of MARPOL and with regards to IMDG cargoes, contact details of coastal States can be found in the ship's SMPEP (Shipboard Marine Pollution Emergency Plan). The list of national operational contact points for the receipt, transmission and processing of urgent reports on incidents involving harmful substances, including oil from ships, is required to be kept on board alongside the SOPEP. The updated list is issued annually as an MEPC-MSC.6/Circular on 31 January of each year. Quarterly updates are subsequently issued on 30 April, 31 July and 31 October of each year.

Reporting details & reporting formats also can be found in the Supplement to the IMDG Code as well.

Reporting of incidents involving harmful substances and/or marine pollutants

Coastal States & other interested parties to be informed without delay of any incident giving rise to pollution, or threat of pollution, of the marine environment, as well as of assistance and salvage measures.

A report shall be made to the nearest coastal State [refer the Resolution A.851(20) or the latest for further details].

¹⁰⁷ Refer Resolution A.851(20) of IMO or the latest for further details

A master should report, without delay, the particulars of the action undertaken or planned when he/she is been requested to assist or undertaking salvage of a ship involved in an incident such as:

- A discharge above the permitted level or probable discharge of oil or noxious liquid substances for whatever reason including those for the purpose of securing the safety of the ship or for saving life at sea¹⁰⁸; or
- A discharge or probable discharge of harmful substances in package form, including those in freight containers, portable tanks, road and rail vehicles and shipborne barges¹⁰⁹

Compiler's notes - The list of national operational contact points for the receipt, transmission and processing of urgent reports on incidents involving harmful substances, including oil from ships, is required to be kept on board alongside the SOPEP. The updated list is issued annually as an MEPC-MSC.6/Circular on 31 January of each year. Quarterly updates are subsequently issued on 30 April, 31 July and 31 October of each year.

Reporting details & reporting formats also can be found in the Supplement to the IMDG Code as well.

G) Managing cyber risks onboard¹¹⁰

Cyber risk management means the process of identifying, analysing, assessing and communicating a cyber-related risk and tolerating, terminating, transferring or treating it to an acceptable level by taking into consideration the costs and benefits of actions taken by stakeholders.

The goal of maritime cyber risk management is to support safe and secure shipping, which is operationally resilient to cyberthreats and risks.

Following is a summary of the circular issued by IMO which are relevant to a master but should be initiated by the company and addressed in the ship's SMS:

- Effective cyber risk management should start at the senior management level. Senior management should follow the relevant training and embed a culture of cyber risk awareness into all levels of an organization.
- Identify the systems, assets, services, data and capabilities, interdependencies between safety critical systems (including the information flow) that, when disrupted, pose risks to ship operation.
- Establish and maintain an inventory of digital systems on board the ship.

¹⁰⁸ Protocol I of MARPOL, Article II, Para 1(a)

¹⁰⁹ Protocol I of MARPOL, Article II, Para 1(b)

¹¹⁰ Refer IMO, MSC-FAL.1/Circ.3/Rev.3 or the latest for further details

- Carry out a risk assessment of those systems, services, assets, data and capabilities critical to ship operations, the sudden operational failure of which may result in hazardous situations.
- Assign unique credentials for all users, separate user and privileged accounts, collect security devices and deactivate accounts for departing employees or users.
- Change all default passwords on all devices, enforce a strong password policy and consider establishing other user account access control management measures to safeguard against malicious attempts such as brute force attacks, phishing, etc.
- Limit exploitable services on the Internet, establish a hardware and software approval process, collect and securely store logs for intrusion detection and incident response, and segment OT [Operational Technology – Computer Based Systems that are focused on the use of data to control or monitor physical processes (e.g. the main engine's oil temperature levels, which are forwarded to the control room)] device networks from IT networks.
- Implement security measures (such as firewall or antivirus) for any ship digital systems and devices that have access to the Internet or the company's intranet, or any interaction with third party or landside network and information systems, particularly those of ship/port interfaces.
- Establish controls to protect systems from the use of unauthorized removable media.
- Mandate annual basic cybersecurity training for all employees.
- Perform regular system backups, software updates, and develop and maintain incident response (IR) plans.
- Records of cyber incidents should be kept.
- Carry out root cause analysis of cyber incidents.

H) Guidelines on the treatment of persons rescued at sea¹¹¹

5. SHIPMASTERS

General guidance

- 5.1 SAR services throughout the world depend on ships at sea to assist persons in distress. It is impossible to arrange SAR services that depend totally upon dedicated shore-based rescue units to provide timely assistance to all persons in distress at sea. Shipmasters have certain duties that must be carried out in order to provide for safety of life at sea, preserve the integrity of global SAR services of which they are part, and to comply with humanitarian and legal obligations. In this regard, shipmasters should:
- .1 understand and heed obligations under international law to assist persons in distress at sea (such assistance should always be carried out without regard to the nationality or status of the persons in distress, or to the circumstances in which they are found);
 - .2 do everything possible, within the capabilities and limitations of the ship, to treat the survivors humanely and to meet their immediate needs;

¹¹¹ Refer IMO Resolution MSC.167(78) or the latest for further details

- .3 carry out SAR duties in accordance with the provisions of Volume III of the IAMSAR Manual;
- .4 in a case where the RCC responsible for the area where the survivors are recovered cannot be contacted, attempt to contact another RCC, or if that is impractical, any other Government authority that may be able to assist, while recognizing that responsibility still rests with the RCC of the area in which the survivors are recovered;
- .5 keep the RCC informed about conditions, assistance needed, and actions taken or planned for the survivors (see paragraph 6.10 regarding other information the RCC may wish to obtain);
- .6 seek to ensure that survivors are not disembarked to a place where their safety would be further jeopardized; and
- .7 comply with any relevant requirements of the Government responsible for the SAR region where the survivors were recovered, or of another responding coastal State, and seek additional guidance from those authorities where difficulties arise in complying with such requirements.

5.2 In order to more effectively contribute to safety of life at sea, ships are urged to participate in ship reporting systems established for the purpose of facilitating SAR operations.

D) Guidelines for a structure of an integrated system of contingency planning for shipboard emergencies¹¹²

3.2.3 Module III: Planning, preparedness and training

3.2.3.5 Training and education should be at regular intervals and, in particular, be provided to shipboard personnel transferred to new assignments.

3.2.3.6 Records of all emergency drills and exercises conducted ashore and on board should be maintained and be available for verification. The drills and exercises should be evaluated as an aid to determining the effectiveness of documented procedures and identifying system improvements.

3.2.3.7 When developing plans for drills and exercises, a distinction should be made between full-scale drills involving all the parties that may be involved in a major incident and exercises limited to the ship and/ or the company.

3.2.3.8 Feedback is essential for refining emergency response plans and emergency preparedness based on the lessons learned from previous exercises or real emergencies, and provides an

¹¹² Refer IMO Resolution A.852(20) or the latest for further details

avenue for continuous improvement. Feedback should ensure that the company, as well as the ship, is prepared to respond to shipboard emergencies

3.2.4 Module IV: Response actions

This module should provide guidance for shipboard personnel in an emergency when the ship is underway, berthed, moored, at anchor, in port or dry dock.

- 3.2.4.1 In an emergency, the best course of action to protect the personnel, ship, marine environment and cargo requires careful consideration and prior planning. Standards for shipboard procedures to protect personnel, stabilize conditions, and minimize environmental damage when an incident occurs should therefore be developed.
- 3.2.4.2 In this context reference is made to the guidelines already developed by the Organization', which contain information to provide a starting point and to assist personnel in the preparation of plans for individual ships.
- 3.2.4.3 The variety of plans to be incorporated in the system should be simple documents which outline procedures different from those used for daily routine operations. With normal operational procedures very difficult problems can be handled, but an emergency situation, whether on the ship at sea or in a port, can extend those involved beyond their normal capabilities.
- 3.2.4.4 In order to keep the plans held by ship and shore identical, and to reduce possible confusion in an emergency as to who is responsible for which action, plans should make clear whether the action should be taken by shipboard personnel or shoreside personnel.
- 3.2.4.5 Taking these particulars into consideration, the module "Response actions" should comprise main groupings of emergency shipboard situations.
- 3.2.4.6 Potential emergency situations should be identified in the plans, including, but not limited to, the following main groups of emergency:
 - .1 Fire
 - .2 Damage to the ship
 - .3 Pollution
 - .4 Unlawful acts threatening the safety of the ship and the security of its passengers and crew
 - .5 Personnel accidents
 - .6 Cargo related accidents
 - .7 Emergency assistance to other ships.

In order to give the company the necessary flexibility for identifying, describing and responding to further shipboard emergency situations, more specific types of emergency should be included in the main groups.

3 .2.4. 7 The majority of shipboard emergencies can be classified under the above-mentioned main groups.

For example, the main group "Damage to ship" can be subdivided to cover other shipboard emergencies, which may require very different responses, such as:

- collision
- grounding/stranding
- heavy weather damage
- hull/structural failure, etc.

The detailed response actions should be formulated so as to set in motion the necessary steps to limit the consequence of the emergency and the escalation of damage following, for example, collision or grounding.

3.2.4.8 In all cases priority should be given to actions which protect life, the marine environment and property, in that order. This means that "initial actions" which are common for all ships, regardless of their type and the cargoes carried, should be fully taken into account when formulating "subsequent response" procedures.

3 .2.4.9 The planning of subsequent response actions should include information relating to the individual ship and its cargo, and provide advice and data to assist the shipboard personnel. Examples of such information are listed below:

.1 Information on:

- the number of persons aboard;
- the cargo carried (e.g. dangerous goods, etc.);

.2 Steps to initiate external response:

- search and rescue co-ordination;
- buoyancy, strength and stability calculations;
- engagement of salvors/rescue towage;
- lightering capacity;
- external clean-up resources;

.3 Ship drift characteristics

.4 General information:

- co-operation with national and port authorities;
- public relations.

3.2.4.10 Although shipboard personnel should be familiar with the plan, ease of reference is an important element in compiling and using an effective plan. Allowance must be made for quick and easy access to essential information under stressful conditions.

3.2.5 Module V: Reporting procedures

A ship involved in an emergency situation, or in a marine pollution incident will have to communicate with the appropriate ship interest contacts and coastal State or port contacts. Therefore the system must specify in appropriate detail the procedures for making the initial report to the parties concerned. This module should take care of the following:

3.2.5.1 Every effort should be made to assure that information regarding:

- ship interest contacts;
- coastal State contacts; and
- port contacts

for reporting emergencies are part of the system and are regularly updated.

J) Revised recommendations on the safe use of pesticides in ships applicable to the fumigation of cargo transport units¹¹³

3.3.1 Fumigation after loading on board a ship

3.3.1.1 No person should be allowed by the master to fumigate the contents of a cargo transport unit once it has been loaded on board a ship.

3.4 Cargo transport units loaded without ventilation after fumigation (fumigation in transit)

3.4.1 When a cargo transport unit under fumigation is taken on board ship without preliminary ventilation, it should be transported as FUMIGATED CARGO TRANSPORT UNIT, UN 3359, class 9 in accordance with the provisions of the IMDG Code. The following special precautions apply to ship-side operations:

- .1 A fumigated cargo transport unit should not be allowed on board until a sufficient period has elapsed to attain a reasonable uniform gas concentration throughout the cargo in it.

¹¹³ Refer MSC.1/Circ.1361/Rev.1 or the latest for further details

Because of variations due to types and amounts of fumigants and commodities and temperature levels, the period between fumigant application and loading of the fumigated unit on board the ship should be determined by the competent authority. Twenty-four hours is normally sufficient for this purpose. Before loading the cargo transport unit should be checked for leaks and any leakage sealed.

- .2 The master should be informed prior to loading of fumigated cargo transport units under fumigation. They should be identified with the warning mark, incorporating the fumigant name and the date and time of fumigation.
- .3 The special list/manifest/stowage plan should identify the fumigated cargo transport units and indicate their stowage location on board. The transport document for fumigated cargo transport units should indicate the date of fumigation and the type and amount of fumigant used.
- .4 Stowage category B has been assigned to UN 3359; however, on deck stowage is preferred. In addition, it shall be stowed clear of living quarters and should be 6 m away from vent intakes.
- .5 If stowed under deck, the cargo space should be equipped with mechanical ventilation sufficient to prevent the build-up of fumigant concentrations above the toxicity levels (threshold limits) set out by competent authorities. The threshold limit for occupational exposure to the fumigant can be found on the Safety Data Sheet if available. The ventilation rate of the mechanical ventilation system should be at least two air changes per hour, based on the empty cargo space.
- .6 If stowed under deck, equipment suitable for detecting the fumigant gas or gases used should be carried on the ship, with instructions for its use.

3.4.2 Before a fumigated cargo transport unit is loaded to a ship under deck, special precautions are necessary. These should include the following:

- .1 at least an officer and one other are to receive appropriate training and will be designated as the trained representatives of the master. The master, through his representative, is responsible for ensuring safe conditions in the occupied spaces of the ship; and
- .2 the trained representatives should brief the crew before the fumigated cargo transport unit is loaded.

3.4.3 Most fumigant gases are heavier than air so care should be taken in the holds particularly when working on the tank tops.

3.4.4 The trained representatives of the master should be provided, and be familiar, with:

- .1 the information in the relevant Safety Data Sheet (SDS), if available; and
- .2 the recommendations of the fumigant manufacturer concerning methods of detection of the fumigant in air, its behaviour and hazards properties, symptoms of poisoning, relevant first aid and special medical treatment and emergency procedures.

3.4.5 The ship should carry:

- .1 appropriate gas-detection equipment for the fumigant concerned, together with instructions for its use when the fumigated cargo transport unit is stowed under deck;
- .2 instructions on disposal of residual fumigant material; and
- .3 emergency response information regarding UN 3359 such as a copy of the latest version of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG).

In addition, the ship should carry at least four sets of appropriate respiratory protective equipment; and when the fumigated cargo transport unit is stowed on deck, appropriate gas-detection equipment for the fumigant concerned, together with instructions for its use.

3.4.6 Prior to the arrival of the ship, generally not less than 24 h in advance, the master should inform the appropriate authorities of the country of destination and ports of call that fumigation in transit is being carried out. The information should include the type of fumigant used, the date of fumigation and cargo spaces carrying fumigated cargo transport units.

K) Revised recommendations for entering enclosed spaces aboard ships¹¹⁴

5 Authorization of entry

- 5.1 No person should open or enter an enclosed space unless authorized by the master or the nominated responsible person and unless the appropriate safety procedures laid down for the particular ship have been followed.
- 5.2 Entry into enclosed spaces should be planned and the use of an entry permit system, which may include the use of a checklist, is recommended. An Enclosed Space Entry Permit should be issued by the master or the nominated responsible person, and completed by the personnel who enter the space prior to entry. An example of the Enclosed Space Entry Permit is provided in the appendix.

¹¹⁴ Refer IMO Resolution A.1050(27) or the latest for further details

6 General precautions

- 6.3 The master or the responsible person should determine that it is safe to enter an enclosed space by ensuring that:
- .1 potential hazards have been identified in the assessment and as far as possible isolated or made safe;
 - .2 the space has been thoroughly ventilated by natural or mechanical means to remove any toxic or flammable gases and to ensure an adequate level of oxygen throughout the space;
 - .3 the atmosphere of the space has been tested as appropriate with properly calibrated instruments to ascertain acceptable levels of oxygen and acceptable levels of flammable or toxic vapours;
 - .4 the space has been secured for entry and properly illuminated;
 - .5 a suitable system of communication between all parties for use during entry has been agreed and tested;
 - .6 an attendant has been instructed to remain at the entrance to the space whilst it is occupied;
 - .7 rescue and resuscitation equipment has been positioned ready for use at the entrance to the space and rescue arrangements have been agreed;
 - .8 personnel are properly clothed and equipped for the entry and subsequent tasks; and
 - .9 a permit has been issued, authorizing entry.

The precautions in subparagraphs .6 and .7 may not apply to every situation described in this section. The person authorizing entry should determine whether an attendant and the positioning of rescue equipment at the entrance to the space are necessary.

- 6.4 Only trained personnel should be assigned the duties of entering, functioning as attendants or functioning as members of rescue teams. Ships' crews with rescue and first aid duties should be drilled periodically in rescue and first aid procedures. Training should include as a minimum:
- .1 identification of the hazards likely to be faced during entry into enclosed spaces;
 - .2 recognition of the signs of adverse health effects caused by exposure to hazards during entry; and
 - .3 knowledge of personal protective equipment required for entry.

6.5 All equipment used in connection with entry should be in good working condition and inspected prior to use.

L) Guidelines on safety during abandon ship drills using lifeboats¹¹⁵

1.3 Drills must be safe

1.3.1 Abandon ship drills should be planned, organized and performed in accordance with relevant shipboard requirements of occupational safety and health so that the recognized risks are minimized.

1.3.2 Drills provide an opportunity to verify that the life-saving appliances are working and that all associated equipment is in place, in good working order and ready for use.

1.3.3 Before conducting drills, it should be checked that the lifeboat and its equipment have been maintained in accordance with the ship's maintenance manuals and any associated technical documentation, as well as noting all the precautionary measures necessary. Abnormal conditions of wear and tear or corrosion should be reported to the responsible officer immediately.

1.5 Planning and organizing drills

1.5.1 SOLAS requires that drills shall, as far as practicable, be conducted as if there was an actual emergency¹¹⁶. This means that the entire drill should, as far as possible, be carried out, while ensuring that the drill can be performed in such a way that it is safe in every respect. Consequently, elements of the drill that may involve unnecessary risks need special attention or may be excluded from the drill.

1.5.2 In preparing for a drill, those responsible should review the manufacturer's instruction manual to ensure that a planned drill is conducted properly. Those responsible for the drill should ensure that the crew is familiar with the guidance provided in the life-saving appliances instruction manuals.

1.5.3 Lessons learned in the course of a drill should be documented and made a part of the follow-up shipboard training discussions and the planning of the next drill session.

¹¹⁵ Refer MSC.1/Circ.1578 or the latest for further details

¹¹⁶ Refer SOLAS regulation III/19.3.1

1.5.4 The lowering of a boat with its full complement of persons is an example of an element of a drill that may, depending on the circumstances, involve an unnecessary risk. Such drills should only be carried out if special precautions are observed.

2.2 Guidance to the shipowner

2.2.1 The shipowner should ensure that new safety equipment on board the company's ships has been approved and installed in accordance with the provisions of SOLAS and the International Life-Saving Appliances (LSA) Code.

2.2.2 Procedures for holding safe drills should be included in the Safety Management System (SMS) of the shipping companies. Detailed procedures for elements of drills that involve a special risk should be evident from workplace assessments adjusted to the relevant life-saving appliance.

2.2.3 Personnel carrying out maintenance and repair work on lifeboats should be qualified accordingly¹¹⁷.

APPENDIX - Guidelines for simulated launching of free-fall lifeboats during drills

3 Conduct of drills – typical simulated launching sequence (SOLAS regulation III/19)

3.1 Check equipment and documentation to ensure that all components of the lifeboat and launching appliance are in good operational condition.

3.2 Ensure that all personnel involved in the drill are familiar with the operating manuals, posters and signs.

3.3 Ensure that the restraining device(s) provided by the manufacturer for simulated launching are installed and secure and that the free-fall release mechanism is fully and correctly engaged.

3.4 Establish and maintain good communication between the assigned operating crew and the responsible person.

3.5 Disengage lashings, gripes, etc. installed to secure the lifeboat for sea or for maintenance, except those required for simulated free-fall.

3.6 Participating crew board the lifeboat and fasten their seatbelts under the supervision of the responsible person.

¹¹⁷ Refer Resolution MSC.402(96) of IMO or the latest for further details

3.7 All crew disembark the lifeboat.

3.8 Return the lifeboat to the condition it was in prior to step provided in paragraph 3.4. Ensure that the lifeboat is returned to its normal stowed condition. Remove any restraining and/or recovery devices used only for the simulated launch procedure.

M) Revised guidelines on the prevention of access by stowaways and the allocation of responsibilities to seek the successful resolution of stowaway cases¹¹⁸

1 Introduction

1.1 Masters, shipowners, public authorities, port authorities and other stakeholders, including those providing security services ashore, have a responsibility to cooperate to the fullest extent possible in order:

.1 to prevent stowaway incidents; and

.2 to resolve stowaway cases expeditiously and secure that an early return or repatriation of the stowaway will take place; all appropriate measures should be taken in order to avoid situations where stowaways must stay on board ships for an unreasonable amount of time.

4.2 Shipowner/Master

4.2.1 Shipowners and masters should ensure that adequate security arrangements are in place which, as far as practicable, will prevent intending stowaways from getting aboard the ship, and, if this fails, as far as practicable, will detect them before the ship leaves port or, at the latest, before it arrives at the next port of call.

4.2.2 When calling at ports and during stay in ports, where there is risk of stowaway embarkation, operational arrangements and/or ship security plans should at least be equivalent to those contained in the relevant text of paragraph B/9 of the ISPS Code.¹¹⁹

4.2.3 When departing from a port, where there is risk of stowaway embarkation, a ship should undergo a thorough search in accordance with a specific plan or schedule, and with priorities given to places where stowaways might hide taking into account the specific ship type and its operations. Search methods which are likely to harm secreted stowaways should not be used.

¹¹⁸ Refer IMO Resolution FAL.13(42) or the latest for further details

¹¹⁹ Recommended Practice 4.3.2.2 of the FAL Convention.

4.2.4 Fumigation or sealing should not be carried out until a thorough search of the areas to be fumigated or sealed has taken place in order to ensure that no stowaways are present in those areas.

5 Responsibilities in relation to the resolution of stowaway cases

5.1 Questioning and notification by the master

It is the responsibility of the master of the ship which finds any stowaways onboard:

- .1 to make every effort to determine immediately the port of embarkation of the stowaway;
- .2 to take practical steps to establish the identity, including the nationality/citizenship and the right of residence, of the stowaway;
- .3 to prepare a statement containing all available information relevant to the stowaway for presentation to the appropriate authorities (for example, the public authorities at the port of embarkation, the flag State and, if necessary, subsequent ports of call) and the shipowner; in this respect the reporting form provided in the appendix should be used and completed as far as practicable;
- .4 to notify the existence of a stowaway and any relevant details to the shipowner and appropriate authorities at the port of embarkation, the next port of call and the flag State, with the understanding that when a stowaway declares himself or herself to be a refugee, this information should be treated as confidential to the extent necessary for the security of the stowaway; to ensure confidentiality in these cases no information should be forwarded to authorities public or private in the country of origin or residence of the stowaway;
- .5 not to depart from the planned voyage to seek the disembarkation of a stowaway discovered on board the ship after it has left the territorial waters of the State where the stowaways embarked, unless permission to disembark the stowaway has been granted by the public authorities of the State to whose port the ship deviates, or repatriation has been arranged elsewhere with sufficient documentation and permission given for disembarkation, or unless there are extenuating safety, security, health or compassionate reasons, or attempts to disembark in other ports on the planned voyage have failed and deviation is necessary in order to avoid that the stowaway remain on board for a significant period of time;
- .6 to ensure that the stowaway is presented to the appropriate authorities at the next port of call in accordance with their requirements;

- .7 to take appropriate measures to ensure the security, general health, welfare and safety of the stowaway until disembarkation, including providing him or her with adequate provisioning, accommodation, proper medical attention and sanitary facilities;
- .8 to ensure that stowaways are not permitted to work on board the ship, except in emergency situations or in relation to the stowaway's accommodation and provisioning on board; and
- .9 to ensure that stowaways are treated humanely, consistent with the basic principles.

N) Guidelines on the basic elements of a shipboard occupational health and safety programme¹²⁰ (SOHSP)

3 Basic elements

- 3.2 Employee participation. Employees from all levels including crew members, officers, masters, persons in charge, and shore-side personnel should be directly involved with the SOHSP. Shipboard and shore-side employees should be involved in developing, implementing, evaluating, and modifying the SOHSP. Employees should also participate in setting occupational health and safety objectives and performance criteria. This involvement might be through employee membership on safety committees that provide input to management for the development of occupational health and safety policy, debate and set occupational health and safety goals, measure and evaluate performance, and recommend modifications to the programme based on their evaluation. Shore-side and shipboard employees should work together to achieve occupational health and safety goals. For example, shore side personnel should participate on vessel safety committees since their decisions affect vessel operations and ultimately the occupational health and safety of vessel personnel. In large companies, individual vessel safety committees might submit recommendations to an overarching safety committee that evaluates the recommendations and sets policy to apply appropriate recommendations to the entire fleet. Further guidance is provided in appendix 2.
- 3.4 Training. Employees should receive training appropriate for their duties and responsibilities so that they may work safely and not endanger their shipmates or the public. In addition, employees who have specific occupational health and safety responsibilities (generally supervisors with responsibility for the safety of others, but also non-supervisors who are assigned to safety committees or as crew member representatives) should receive training to enable them to carry out their occupational health and safety programme responsibilities. Further guidance is provided in appendix 4.

¹²⁰ Refer MSC-MEPC.2/Circ.3 or the latest for further details

3.6 Contract or third party personnel. When contract or third party personnel are on board to perform work, vessel personnel should provide information regarding potential hazards on the vessel that may affect the contract or third party personnel. Potential hazards related to the work conducted by contract or third party personnel should be provided to the vessel owner/operator and/or the master/person-in-charge. Each employer should provide appropriate information regarding vessel and work hazards to their own employees. For example, exchange of information on chemical hazards might be accomplished by exchanging appropriate safety data sheets (SDS), then each employer can inform their own employees of the hazards identified in the SDS. Further guidance is provided in appendix 6.

Management commitment and leadership

5 Defining stewardship responsibilities and providing authority to carry out those responsibilities is an essential component of management commitment. For example:

.2 Master/person-in-charge/operator should:

.2.1 ensure each crewmember receives an initial vessel orientation, covering company safety policy, emergency procedures, access and egress, fire fighting, job hazards, and information on hazardous materials before beginning work. Document the completion of this orientation;

.2.2 ensure each crewmember is competent to perform a task or job by requiring a pre-job explanation and/or walk through of all procedures including safe work practices before starting work on that project or equipment. Require pre-job refresher training if the employee cannot demonstrate this competence;

.2.3 ensure each crewmember has been issued and received training on the use of required personal protective equipment (PPE) before starting work on a project requiring PPE;

.2.4 complete periodic walk-around occupational health and safety checks of the vessel accompanied by appropriate personnel including those who have responsibilities or work in certain areas (e.g., Chief engineer and an oiler in engine spaces or First mate and able-bodied seaman on deck);

.2.5 periodically observe work performance of employees for compliance with safety rules contained or documented in the SOHSP;

.2.6 set a good example for subordinates by following established safety rules and attending training as appropriate;

- .2.7 complete a preliminary investigation of all accidents and report findings to company management; and
- .2.8 provide information to company management suggesting changes to company-wide standard operating procedures or equipment that will improve employee safety;
- .3 Officers/other management personnel should act as the master's or person-in-charge's representative, and implement examples listed for the master in areas over which they exercise supervision (e.g. First Mate responsible for "deck" personnel and Chief Engineer responsible for "engineers").

O) Guidelines on voyage data recorder (VDR) ownership and recovery¹²¹

Ownership of VDR information

- 1 The ship owner will, in all circumstances and at all times, own the VDR and its information. However, in the event of an accident the following guidelines would apply. The owner of the ship should make available and maintain all decoding instructions necessary to recover the recorded information.

Recovery of VDR and relevant information

- 2 Recovery of the VDR is conditional on the accessibility of the VDR or the information contained therein.
 - .1 Recovery of the VDR information should be undertaken as soon as possible after an accident to best preserve the relevant evidence for use by both the investigator¹²² and the ship owner. As the investigator is very unlikely to be in a position to instigate this action soon enough after the accident, the owner must be responsible, through its on-board standing orders, for ensuring the timely preservation of this evidence.
 - .2 In the case of abandonment of a vessel during an emergency, masters should, where time and other responsibilities permit, take the necessary steps to preserve the VDR information until it can be passed to the investigator.
 - .3 Where the VDR is inaccessible and the information has not been retrieved prior to abandonment, a decision will need to be taken by the flag State in co-operation with any other

¹²¹ Refer MSC/Circ.1024 or the latest for further details

¹²² The term *investigator* refers to the Marine Casualty Investigator as per the terms of the Code for Investigation of Marine Casualties and Incidents.

substantially interested States¹²³ on the viability and cost of recovering the VDR balanced against the potential use of the information. If it is decided to recover the VDR the investigator should be responsible for co-ordinating its recovery. The possibility of the capsule having sustained damage must be considered and specialist expertise will be required to ensure the best chance of recovering and preserving the evidence. In addition, the assistance and co-operation of the owners, insurers and the manufacturers of the VDR and those of the protective capsule may be required.

Custody of VDR information:

- 3 In all circumstances, during the course of an investigation, the investigator should have custody of the original VDR information in the same way that the investigator would have custody of other records or evidence under the Code for the Investigation of Marine Casualties and Incidents.

Read-out of VDR information:

- 4 In all circumstances the investigator is responsible to arrange down loading and read-out of the information and should keep the ship owner fully informed. In some cases, the assistance of specialist expertise may be required.

Access to the VDR information:

- 5 A copy of the VDR information must be provided to the ship owner at an early stage in all circumstances.
- 6 Further access to the information will be governed by the applicable domestic legislation of the flag State, coastal State and other substantially interested States as appropriate and the guidelines given in the Code for the Investigation of Marine Casualties and Incidents.
- 7 Any disclosure of VDR information should be in accordance with section 10 of the Code for the Investigation of Marine Casualties and Incidents.

¹²³ Refer to paragraph 4.11 of the Code for the Investigation of Marine Casualties and Incidents, as adopted by resolution A.849(20). [Compiler's note – Latest version is Resolution MSC.255(84)]

MISCELLANEOUS

A) General procedure of changing a ship's name

Masters are required to refer the flag state regulations concerning the procedure of changing the ships name as different flag states may have different practices and procedures in changing a vessel's name. General guidelines are stipulated below:

- No alteration to be done on the vessel's hull until a carving and marking note is received from the flag state.
- The ship's owner to inform the master the date and the time of change of name.
- A surveyor will witness the change of name onboard.
- Re-registration is not required but, a provisional certificate of registry will be issued by the flag state which will be valid for 06 months. Some flags may allow the surveyor to amend the name on the existing certificate of registry until a new certificate is issued.
- The former name on the statutory certificates will be deleted (by striking through), and the new name will be stamped by the surveyor.
- Ship name to be changed on stability book, cargo securing manual, SOPEP, SMPEP, ballast water manual, SEEMP, garbage management plan, lifeboats, life rafts, life buoys, ship's hull etc.
- Changes to the statutory documents will be carried out by a class surveyor. Once the name is changed all the documents to be dated, signed and stamped by the surveyor.
- Once the ship's name is marked on the hull and witnessed by the surveyor, the certified carving and marking note to be sent to the registrar of ships.
- Amendment regarding change of name to be made in the amendment sheet of the CSR by the master. This will provisionally replace the original CSR until it is re-issued by the flag. Make sure the data on the new CSR is correct.

B) General procedure of changing a ship's flag

- Among other documents the ship owner is required to produce the below documents to the new flag state:
 - Builder's certificate
 - Foreign registration certificate
 - Bill of sale
 - Demise charter party (if the vessel is demise chartered)
 - International Tonnage Certificate
 - Port state control records
 - Classification society records
 - Ships radio station license

- Marking note
 - Copies of valid international ship certificates issued by the existing flag state
- Different flag states may require producing other documents such as general arrangement plan, fire control & safety plan (approved by RO), engine room arrangement plan, cargo securing manual (approved by RO), SOPEP (approved by RO), stability book (approved by RO), damage stability book (approved by RO) etc.
 - Once the formalities are completed, a marking and carving note will be issued.
 - Ship's name (if the name to be changed) & port of registry to be changed on stability book, cargo securing manual, SOPEP, SMPEP, SEEMP, garbage management plan, ballast water manual, life boats, life rafts, life buoys, ship's hull etc. Changes to the statutory documents will be carried out by a class surveyor. Other changes must be carried out by the ship's staff but will be checked by the surveyor.
 - The class must be recognized by the new flag state to carryout surveys and issue certificates.
 - Once the ship's name (if the name is to be changed) and the port of registry is marked on the hull and witnessed by the surveyor, the certified carving and marking note to be sent to the registrar of ships.
 - The sailing staff need to have COR or CEC as required by the new flag state.
 - Relevant regulations of the new flag state to be onboard and the master shall be aware of such regulations.
 - May require registering the 406 MHz EPIRB with the flag state and the EPIRB will be coded with a new flag state identity.
 - New call sign and a MMSI number may be assigned.
 - May require having radio license from the new flag state.
 - All the statutory surveys to be carried out with a spectrum of annual or renewal or periodical or intermediate depending upon the due dates of the surveys as appropriate.
 - Before issuing a Certificate of Registry, the new flag state is required to have evidence of closure of previous foreign registration.
 - Interim certificates for most of the certificates will be issued by the class surveyor on the day of changing the flag.
 - Most of the time, most of the full-term certificates are also issued by the classification society.
 - Certificate of registration will be issued by the new flag state.
 - Some flag states have not delegated the power to issue certain statutory certificates to the classification societies. Therefore, according to the requirements of the new flag, make sure that the statutory certificates are issued accordingly.
 - New International Tonnage Certificate will be issued by the new flag based on the former certificate. Tonnage measurements will not be carried out provided no alterations to the vessel's structure.
 - The existing Panama and Suez tonnage certificates will not be affected, and they will remain valid provided no alterations to the vessel's structure. The port of registry, ship's name (if required) will be amended by a surveyor.

- Regarding the DOC (ISM Code):
 - If there are other similar type vessels (belongs to the company) registered in the new register, and if the new flag is the predominant flag (having most number of ships of the owner in this flag), existing DOC will not be affected.
 - If there are other similar type vessels registered in the new register, and if the new flag is not the predominant flag, Letter of Acceptance will be issued by the new flag, accepting the DOC issued by the predominant flag.
 - If there are no similar type vessels registered in the new register, an interim DOC will be issued, until the full-term DOC is issued and during this time period, existing ships will be having the existing DOC. Existing full-term DOC will be replaced once the new full-term DOC is issued.

- Amendments regarding change of flag to be made in the amendment sheet of the CSR by the master. This will provisionally replace the original CSR until it is re-issued by the new flag. Make sure the data on the new CSR is correct.
- SSP must be approved by a RO and need to issue a new SSP Approval Letter by the new administration.

C) Double and dual class

A double classed vessel is one which is classed by two Societies and where each Society works as if it is the only Society classing the ship and does all surveys in accordance with its own requirements and schedule¹²⁴.

A dual class vessel is one which is classed by two Societies between which there is a written agreement regarding sharing of work, reciprocal recognition of surveys carried out by each of the Societies on behalf of the other Society and full exchange of information on the class status and survey reports¹²⁵.

D) Can a master stop shore leave to staff onboard?

A master may grant shore leave for the wellbeing of the staff. But a master may stop shore leave if the port is not safe enough to go ashore or due to operational requirements of the ship. Therefore, a master may cancel or allow shore leave depending upon the circumstances but, shall not cancel shore leave without justifiable reasons.

¹²⁴ <https://ww2.eagle.org/content/dam/eagle/rules-and-resources/forms/classification-forms/Request-for-Class-FAQs.pdf> (Accessed: 04/12/2025)

¹²⁵ *ibid*

E) If any complaints are received with regards to food and water

In accordance with the British regulations a master is required to take actions if complaints are received regarding quality or quantity or health safety of food and water by three or more persons only. In such a case:

- Carryout an investigation to identify whether the complaint is reasonable.
- If the complaint is reasonable, need to rectify the matter within a reasonable time.
- If the persons made the complaint are not happy about the actions of the master or if the master does not take an action, the complainers may express their dissatisfaction and they can complain it to the superintendent or any other officer within the company and the master is required to facilitate them to do so (complain procedure – MLC 2006).
- As a result of an investigation if the superintendent or other officer in the company inform the master in writing that the food and the water is not in good condition or sufficient quantity, the master shall rectify the matter within a reasonable time

Note that the MLC 2006 states that the food and drinking water supplies, having regard to the number of seafarers on board, their religious requirements and cultural practices as they pertain to food, and the duration and nature of the voyage, shall be suitable in respect of quantity, nutritional value, quality and variety.

F) Food safety

Ship masters are required to refer the following regulations and publications with regards to food safety & hygiene onboard ships:

- Flag state regulations
- Company SMS
- Guide to ship sanitation (published by WHO)
- Code of Safe Working Practices for Merchant Seafarers (published by Maritime & Coastguard Agency, UK)

Generally, following to be complied with, to avoid food poisoning onboard ships:

- Comply with onboard food safety plan. Usually, this covers;
 - Safe procedures of handling food stuffs when received onboard.
 - Proper stowage and segregation of food. (Stowage means stowing of food items in appropriate places such as cold rooms, dry storerooms etc. Segregation means separation of various food items between themselves such as Ready-to-eat food is to be separated from raw food.)
 - Organization of galley.
 - Personal hygiene of personal who are handling food.

- Safe preparations of food.
 - Precautions to take to avoid contamination with waste or other materials.
 - Safe procedures in storage of cooked food.
 - Safe procedures of cleaning and disinfecting and
 - Check lists to be used with regards to food handling.
- Frequent galley and food storage areas inspections to be carried out and make sure such areas are being maintained as required by the flag state regulations and company SMS.
 - Make sure the cooks are properly qualified (MLC 2006, as amended).
 - Cooks and messmen must have sufficient knowledge about the requirements of the flag state and company SMS with regards to food safety (onboard food safety plan).
 - Ensure the check lists which are in the onboard food safety plan are properly used by the galley department.
 - Make sure to post food safety placards in accordance with the company SMS in appropriate places.
 - Make sure the cooks and the messmen are maintaining their personal hygiene.
 - There must be adequate and suitably located handwashing and hand-drying facilities for food handling personnel.
 - Do not allow any body to catch fish for eating purposes while onboard.
 - Do not allow to take food into cabins.
 - No persons shall be allowed to enter galley or food storage areas with dirty shoes and clothes.
 - Cracked or chipped crockery and glassware should be discarded.
 - Ensure a proper garbage management system is maintained onboard.

G) Deaths onboard (In accordance with UK regulations)

- Refer the guidance given in the “Ship master’s medical guide” and (Compiler’s note - may take radio medical advice) to confirm the death.
- Inform the owners, next of kin and P & I club.
- Carry out an investigation for the cause of the death if it is due to an accident. Make necessary entries in the ‘Accidents and near-misses records’ and within 24 hrs inform MAIB.
- Take statements from those who have witnessed the situation.
- Ensure the records of all first aid, medication, TEMAS instructions taken are maintained.
- Prepare the body as the instructions provided in the “Ship master’s medical guide”, put it in a mortuary bag and place it in the cool room.
- Two officers shall take an inventory of deceased personal belongings and money left behind. The list of inventories to be signed by the two officers. A copy to be sent to the deceased’s next of kin through the owners.
- Prepare the deceased final wages and take necessary actions to send it to the next of kin.

- Enter the details on the official logbook. This entry shall be signed by the master and witnessed by any crew member. The entries include:
 - Date, time and position/place of death
 - Name and surname
 - Sex
 - Date of birth or age
 - Maiden surname if applicable
 - Occupation
 - Address
 - Nationality
 - Cause of death
 - If lost from the vessel, steps taken to rescue
 - Record of making of a Return, including the person to whom it was made
 - Notification of the death to deceased next of kin with their name and address
 - List of the deceased personal belongings (above inventory obtained by the two officers can be annexed)

- Complete a Return and forward it to Consul or other officer abroad. Please refer the “Instructions to Master” on the “Return of Births and Deaths RBD 1” below:

Return of Births and Deaths RBD 1

For the purpose of Regulations 5 and 6 of the Merchant Shipping (Return of Births and Deaths) Regulations 1979

Important: The Consul or other Officer abroad, or the Superintendent in the United Kingdom to whom this Return is given, should forward it without delay direct to:-

Registry of Shipping and Seamen
MCA Cardiff
Anchor Court
Ocean Way
Cardiff
CF24 5JW

Tel: 02920 448800
Fax: 02920 448820
E-mail rss@mca.gov.uk

Name of Ship	Official number or, if a Fishing vessel, RSS number together with port Letters and Number	Port of Registry (if the ship is registered outside the UK or is unregistered state also the name and address of owners)

Instructions to Masters ¹

A return of Death should be delivered to a Superintendent, Consul or Shipping Master at the earliest opportunity. The Master should produce the Return together with his Official Log Book recording the occurrence.

<p>UK Ships (Registered & Unregistered) The Master is required to make a Return of:</p> <ul style="list-style-type: none"> • Any birth of a child • Any death in the ship ² • The death of any person employed in the ship, where it occurred outside the UK <p>Other Ships If the ship calls at a port the Master is required to make a return of any birth or death of a citizen of the UK or Colonies ³ which has occurred in the ship during the voyage.</p> <p>Instructions to Consuls, Shipping Masters and Superintendents The officer receiving a Return from a Master must be satisfied that:</p> <ul style="list-style-type: none"> • It is correctly completed in all particulars. Any omission or ambiguity (such as stating the cause of death simply as "missing") will lead to delay in registration. • The person making the Return is the Master of the ship. • The vessel is a sea-going ship. • The entry in this Return and in the Official Log Book (where carried) are consistent with one another. 	<p>If a death occurred ashore, or the body was brought ashore, it will be helpful if a copy of the Post Mortem findings or other medical or police reports (with a translation into English if in a foreign language) is attached to the Return.</p> <p>The Officer should also refer to his instructions or notes for guidance in order to find out whether he is to hold an inquiry into the cause of death.</p> <p>In the event of difficulties, assistance should be sought from the RSS at the above address.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Master includes every person (except a pilot) having command or charge of any ship. 2. In the ship includes: in a ship's boat or life-raft; being lost from a ship includes: a ship's boat or life-raft. 3. Citizen of the UK and Colonies under the British Nationality Act 1981 means a person who is a: <ul style="list-style-type: none"> • British Citizen • British Dependant Territories Citizen • British Overseas Citizen • British National (Overseas), (under the Hong Kong 'British Nationality' order 1986)
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**PART A: DEATH AT SEA:
PARTICULARS OF DECEASED**

Date of Death	
Place of Death or loss (Latitude and Longitude if at sea)	
Name and Surname of Deceased (also maiden name of woman who has married, if known)	
Sex	
Date of Birth (if known) or age	
Occupation, rank or profession	
Usual residence at time of Death	
Nationality	
Cause of Death Certified correct by ship's doctor or other Medical Practitioner (where possible) <small>When completing this form or making entries in the Log Book as to the "Cause of Death", terms such as "suicide" or "missing" should be avoided and more specific terms such as "gunshot wound to the head" or "lost at sea believed killed or drowned" used instead.</small>	

<p>Certificate to be signed by the Master</p> <p>I Certify that:</p> <ul style="list-style-type: none"> This Return is correct and true I have recorded the Death in the Official Log Book or other record of the ship <p>The extract from the Official Log Book at page 4 of this Return is a true extract</p>	<p>Signature of Master</p> <p>.....</p> <p>Full name of Master (in capitals)</p> <p>.....</p> <p>Date:</p>
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<p>Certificate to be signed by the Proper Officer to whom this return is delivered.</p> <p>I Certify that:</p> <ul style="list-style-type: none"> This report was made to me at the date and place shown above. I have examined the Official Log Book containing the relevant entries I have/have not held an inquiry under Section 271 of the Merchant Shipping Act 1995 (*please delete as appropriate). 	<p>Signature of Officer</p> <p>.....</p> <p>Full name of Officer (in capitals)</p> <p>.....</p> <p>Date:</p>
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Additional particulars in respect of deceased member of the crew, if known:

Name:

Relationship

and

Address of next of kin

.....

.....

.....

Discharge Book Number:

UK Ships only. If the deceased was engaged on a "supplementary" agreement for non-UK seamen, please state the date and place that agreement was opened.

Date:

Place:

Copy of entry or entries relating to death appearing in the narrative section of the Official Log Book or other official record:

Date and hours of the occurrence	Place of the occurrence or situation by Latitude and Longitude at sea	Date of entry	Entries required by Regulations made under Section 77 of the Merchant Shipping Act 1995

- If the death is taken place at sea and if the deceased is one of the persons listed in the Minimum Safe Manning document, it will not affect the validity of the certificate, until the vessel arrives port. But, if the death occurs at a port, the validity of the certificate will be affected. Before departure, need to have a replacement or if not possible, a dispensation certificate.
- Inform the agents at the port of arrival.
- Take advice from the local agent and the P & I club regarding the local procedures of repatriation of the body.
- Terminate the crew agreement and it must be witnessed.
- Complete the discharge book and enter “DECEASED” in the “date of discharge” space.
- Amend the list of crew.
- Body and the personal belongings to be delivered to the agent at the port of arrival in accordance with the local procedures.

H) Delivery and re-delivery procedures (with regard to time charter parties)

In case of delivery¹²⁶

- Vessel to be brought to the port of delivery before the end of cancelling date.
- Master is required to keep informing the charterer ETA at the port of delivery. Some charter parties may require declaring within a stated period of time after receiving the notice of the delay whether they will cancel or take delivery.
- Ensure the stated amounts of bunkers are available onboard.
- At the time of delivery, an on-hire survey or delivery survey will be carried out by the charterers. Therefore, the master must ensure the vessel is well prepared for the survey. This will be carried out to:
 - check the amount of bunkers available onboard;
 - check the general condition of the vessel;
 - ensure the holds and tanks are fit for the carriage of goods; and
 - check for any existing damages in the cargo holds or cargo tanks (charterers will not be liable for such damages at the time of re-delivery).
- Usually, this survey will be conducted jointly by the charterers and ship owners. The time spent will be at the owner’s risk and will not be on-hire until the survey is passed. Any time lost as a result of the on-hire survey shall be for the owner’s account.
- May take a count of lashing material.
- The surveyors will issue a ‘Delivery Certificate’ and the survey report will be attached to the delivery certificate. A delivery certificate will contain:

¹²⁶ Ship Master’s business companion

- Bunker remaining onboard figures
 - The condition of the cargo holds or cargo tanks
 - Date and time of hand over the vessel to charterers
- If any lashing material is received by charterers, make sure to keep them separately not to mix with the lashing material which are already onboard.

At the same time, note the below abstracts from a ‘delivery’ clause of a time charter party:

The vessel on delivery shall be seaworthy and in every way fit to be employed for the intended service, having water ballast and with sufficient power to operate all cargo handling gear simultaneously, and, with complement of Master, officers and ratings who meet the STCW requirements for a vessel of her tonnage.

The vessels holds shall be clean and in all respects ready to receive the intended cargo, or if no intended cargo, any permissible cargo:

On delivery / on arrival (delete as appropriate) at first loading port if different from place of delivery. If the vessel fails hold inspection then the vessel shall be off-hire from the time of rejection until the vessel has passed a subsequent inspection¹²⁷.

In case of re-delivery¹²⁸

- Refer the ‘Redelivery clause’ in the charter party. This clause states the charterer’s obligations to redeliver the vessel in the same condition as she was delivered, fair wear and tear accepted. It will also state:
 - Date and place of redelivery and
 - Charterers to give notice of redelivery
- An off-hire survey will be carried out to determine the amount of bunkers onboard and the extent of any damage done during the period of charter. Charterers will be liable for any damages occurred during the period. Therefore, master must ensure all such damages are included in the survey report. Usually, this survey will be carried out by an independent surveyor and a “redelivery certificate” will be issued.
- Any time lost as a result of the off-hire survey shall be for the charterer’s account.
- The master must ensure to get any damages repaired which affects the seaworthiness and the cargo worthiness of the vessel immediately. Nonessential repairs may be carried out at a later stage, but, at the charterer’s cost.

¹²⁷ NYPE 2015, Time charter

¹²⁸ Ship Master’s business companion

- If the charter party states the vessel to be redelivered in “clean” condition, the master must ensure the cargo holds and the cargo tanks are fully cleaned.
- Need to return any lashing materials received by charterers.

I) Digital publications onboard

IMO MSC-MEPC.2/Circ.2 1 June 2006, allows the carriage of digital publications onboard ships provided the media is treated in accordance with the document control procedures in the ship’s SMS including procedures for timely update.

Such electronic publications may include documents issued by IMO or an Administration or a body authorized by an Administration so that it ensures correctness of their contents and will be safeguarded against illegal copying.

But the publications for emergency use, such as the International Code of Signals and the IAMSAR Manual should always be available in the form of hard copies.

The master shall ensure to comply with the flag state regulations regarding the carriage of digital publications.

J) Crew strikes onboard¹²⁹

The relevant current legislation on strike action by seamen in UK ships is mentioned in section 59 of the Merchant Shipping Act 1995, which makes it illegal for seamen onboard sea-going UK ships to combine with other seamen employed in that ship to;

- disobey lawful commands which are required to be obeyed at a time while the ship is at sea;
- neglect any duty which is required to be discharged at such a time;
- impede, at such a time, the progress of a voyage or the navigation of the ship

For the purposes of section 59 of MSA 1995, “at sea”, means at any time when the ship is not securely moored in a safe berth (in the UK or elsewhere).

K) Actions to be taken in the case of cargo damages

If cargo is found damaged during loading:

- Stop loading immediately.

¹²⁹ Merchant Shipping Act 1995, UK

- Call the P & I club.
- Inform owners and charterers.
- Inform the shipper / charterer that the bill of lading will be claused appropriately if damaged cargo is loaded.
- If the shipper / charterer insists on loading the same cargo, issue a letter of protest stating that the vessel is at liberty to refuse damaged goods.
- Take photographic evidence of the cargo and how they are being stowed.
- If the carrier agrees to carry cargo in the damage condition, the mate's receipts and bill of lading may have to be claused accordingly. Carrier to be indemnified against possible future claims. A cargo surveyor may have to be appointed to quantify the cargo damage. The damage cargo may have to be segregated from the cargo which are in good condition to avoid further damage during the voyage. The carrier may be liable if it happens. Ensure even the damage cargo also well stowed and secured to avoid damages to the vessel and further damages to that cargo.
- If the cargoes are loaded from open storage locations or barges there is a possibility of damaging the cargo due to water/weather. In that case, it is better to clause the bills of lading to avoid future claims (example – 'loaded from opened storage', 'loaded from barges').

If cargo is found damaged during discharging:

- Stop discharging until the damage is ascertained.
- Inform owners & charterers.
- Call P & I club and arrange a cargo survey.
- Restrict access to cargo owners and their surveyors without proper instructions from P & I club and owners. If access to cargo interests is allowed after consultation with the P & I club, ensure:
 - Such surveys to be carried out at the presents of P & I surveyor and the P & I surveyor has to accompany them.
 - Such surveys to be restricted to survey of damage cargo only. They should not be allowed to identify the extent of the damage and the cause of the damage.
 - Such surveyors shall not be allowed to enter into non-cargo carrying areas, ship's equipment or structure, communication with ship's staff without prior approval.
 - If such surveyors require samples of cargo, the P & I surveyors also have to take similar samples.
- Need to carry out an investigation to identify the cause of the damage.
- Collect the following information and records as they may be important to protect the carrier depending upon the type of damage:
 - Quantity and, serial numbers of packages, name of port of loading, name of the port to be discharged of the damaged cargo.
 - Test certificates & shipper's declarations of the damage cargo.

- If the cargo is damaged due to weather, copies of deck logbook indicating times and the conditions of heavy weather, ship's positions with courses steered and the weather records.
 - Ballasting / de-ballasting plans.
 - Cargo manifests.
 - Stowage plans.
 - Stability calculation records.
 - Cargo securing plans.
 - Sounding records of hold bilges.
 - Cargo monitoring records such as temperature cards, humidity records, ventilation records, lashing check records etc.
 - Communication records with shipowners, charterers, shippers, cargo owners etc.
 - Maintenance records of the equipment that is used for the safe carriage of goods, such as heating units, ventilations hatch covers etc.
 - Records on hold preparations prior to loading.
 - Details of cargo samples taken.
 - Records of tank cleaning before loading and pre-loading tank inspection records.
- Depending upon the type of the damage, may have to arrange special discharging arrangements to discharge the cargo.
 - If any protests are received from cargo owners, do not sign them and consult the P & I club immediately to seek the best possible action. If the master cannot avoid signing it, one of the following statements to be entered on the protest prior signing (or use any statements as provided in the ship's SMS):
 - Signed without prejudice, without any admission and for receipt only
 - Received without prejudice and without admission of liability
 - Received without prejudice and for receipt only

If the cargo damaged is known or suspect during the voyage:

- Inform owners, charterers, cargo owners and P & I club.
- If the damage likely to caused due to heavy weather, consider of altering the speed or course to reduce rolling and pitching.
- May require arranging further lashing.
- Depending upon the type of the damage, may have to check the seaworthiness of the vessel to continue the voyage.
- May request advice from charterers or cargo owners with regards to reducing further damage to cargo.
- If possible, take actions immediately to stop or reduce further damages.
- Make sure to record the actions taken to stop or further damage to cargo.
- Make a sea protest depending upon the circumstances.
- Take photographic evidence of the damage if possible.

- Depending upon the type of the damage, may have to arrange special discharging arrangements to discharge the cargo.
- Through the P & I club, may have to call a cargo surveyor to quantify the damage at the port of discharge.
- At the port of discharge, note protest.

L) Actions to be taken when the vessel is damaged by stevedores

- The duty officer must inform the person who is in-charge of the stevedores, inform the chief officer, complete a damage report and get damage report sign by the person in-charge.
- Make an entry on the deck logbook.
- If the damage is serious inform owners, charterers, P & I, classification society and other responsible persons.
- If the damage is serious which may affect the cargo worthiness or the seaworthiness of the vessel, make a report holding the stevedores/charterers responsible for the damage and it may include:
 - Date, time & the name of the port.
 - Statements of facts about the incident.
 - Details of the damage to the vessel.
 - Names and positions of the persons who made the damage and names of persons who witnessed the incident.
 - Weather condition at the time of the occurrence.
 - Photographs of the incident.
 - A request to repair the damage at the port where the incident took place immediately and to the satisfaction of the surveyors appointed by the Class or vessel's Administration.
- The above report to be sent to owners, local agent, stevedoring company and charterers.
- If the damage is serious:
 - Check whether people are injured and if so, take actions to treat/hospitalize them.
 - Along with the chief engineer assess the damage. If it is not possible, may have to call for a surveyor.
 - Carry out an investigation to identify the cause of the damage.
 - Note protest.
 - Check the cargo worthiness & the seaworthiness of the vessel.
 - Take necessary actions immediately to ensure the safety of the vessel, people and marine environment.
 - May have to inform the Flag State depending upon the situation.
 - Check whether repairs can be carried out while the part of the cargo is onboard. If not, will have to arrange warehousing for the cargo.
 - May have to carry out repairs at the presence of a class surveyor.

M) Bunkering operations

Ship's SMS contains all the information with regards to bunkering operations, which includes:

- Identification of responsible people onboard.
- Safe bunkering procedures.
- Safety check lists.
- Actions to take when there are disputes between the vessel and the bunker barge.
- Actions to take if there is a bunker spillage.
- Instructions to be followed before signing any documents such as bunker delivery note.

Documents used

- Bunkering procedures and other relevant documents in the SMS,
- Bunker requisition form,
- Safety checklist,
- Customs declaration,
- MSDS and
- Bunker delivery note.

Signing of documents

Before signing a bunker delivery note (BDN), must have a good knowledge of the company bunkering procedures. it may contain instructions with regards to any statements that is to be included in the BDN, remarks to be made on the BDN and the acceptable differences between quantity on the BDN and the received quantity.

Bunker disputes

If there are any disputes with regards to quantity or quality or any other matter of the bunkers received, the master/chief engineer shall make a letter of protest and make a remark on the BDN referencing the letter of protest or detail complain may be made on the BDN. But, it is always better to make a letter of protest.

If there is a difference between the quantity in the BDN and the quantity received, get the chief engineer to check all the soundings and calculations again. Still the difference is there, the chief engineer must make sure to enter the lowest quantity measured on the BDN. The disputes are to be reported to the company as instructed in the bunkering procedures and the charterers if the vessel is chartered.

In case of bunker spillages, losses, damages or delays

Among other things the bunker agreement offered by Spence Seahorse Marine (Pvt) Ltd (SSM)¹³⁰ states:

- With regards to any spillages, the Buyer shall cooperate and render such assistance as is required by the Seller in the course of such action. All expenses, claims, costs, losses, damages, liability and penalties arising from spills shall be borne by the party that caused the spill by its negligent act or omission.
- SSM or the Buyer shall not be liable for any loss, claim or demand of any nature whatsoever beyond the Buyer's or SSM's control including (but not limiting) the generality of the foregoing declared or undeclared war, sabotage, blockade, revolution, police action, riot or disorder, embargo or trade restriction of any sort, non-availability of raw material, government or quasi-government action, Act of God, fire, flood, earthquake, storm tide or tidal wave, explosion, accident, radiation, strike, lockout or other labour dispute, disease, epidemic or pandemic.

N) In Water Survey (IWS)¹³¹

Under normal conditions the outside bottom of a cargo vessel is to be inspected twice every five years, at intervals of not exceeding 36 months. One of these inspections may be replaced by an IWS. But, if the IWS is not carried out for the satisfaction of the attending surveyor, the outside bottom must be inspected in a dry dock.

Ships of less than 15 years of age are allowed for IWS, but, ships above 15 years of age also be allowed provided, agreed by the Flag and the ship's classification after special considerations. IWS is not allowed for tankers and bulk carriers of more than 15 years of age undergoing the Enhanced Survey Programme.

If a ship owner is expecting to comply with the IWS programme, he must take necessary steps to prepare his vessel for IWS, from her last dry dock itself. There are lot of areas to be considered in the dry dock, but only few are listed below to give you an idea:

- The cathodic protection system must be enough.
- Hull is properly de-rusted and good quality paint is applied.
- The colour of the underwater paint matters as well since a successful underwater inspection may not be possible with some colours.

¹³⁰ Spence Seahorse Marine (Pvt) Ltd, General Terms and Conditions for Sale of Marine Fuels, <https://www.spenceseahorsemarine.com/documents/ssm-general-terms-and-conditions.pdf> (Accessed: 04/12/2025)

¹³¹ MGN 546 (M), MCA, UK, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/867042/MGN_546_IWS_-_Final_March_2017.pdf (Accessed: 2/12/2025)

- The hull should be permanently marked externally to indicate the position of transverse primary members, transverse and longitudinal bulkheads or frame numbers.
- Special consideration is required for areas where the divers do not have accesses.
- Need to have arrangements to:
 - inspect sea chests (require having hinged gratings).
 - access to rudder bearings and determine the condition and clearance of the rudder bearings.
 - access the seal assembly of the stern bearings of oil lubricated bearings to make sure they are intact and determine the clearance of wear down.

After the dry dock (if expecting for an IWS next time), following records are required to be maintained onboard:

- A record of all suspected or actual hull damage and all contacts occurred between the last dry dock and the IWS.
- Oil usage for propeller shaft seals, thrusters to indicate the condition of the seals.
- Records of regular oil analysis and temperature of bearings.

Before the IWS:

- The ship owner is required to make an application to the classification society of the vessel indicating the date and place of the expected IWS. This application must include the following as well:
 - Master's declaration of all suspected or actual hull damage and all contacts occurred between the last dry dock and the IWS,
 - Records of oil usage for propeller shaft seals and thrusters and
 - Records of regular oil analysis and temperature of bearings.
- If required, the hull should be cleaned before the IWS so that the actual condition of the hull can be inspected.

The place of the IWS:

- Weather has to be calm.
- No currents or less currents.
- Good under water visibility.
- Less traffic as this may disturb the sedimentation reducing the underwater visibility.
- Preferably, at anchor during day time.

At the time of the IWS, the vessel shall be;

- at a suitable draught and trim;
- in ballast condition specially, for large vessels; and

- with a fully submerged propeller, so that the diver will have full access to it.

Procedure of IWS

- A meeting to be arranged between all the parties to make a plan for the IWS.
- All safety precautions to be observed, such as locking of propellers, rudders & thrusters, stopping of all pumps etc.
- Appropriate signals are displayed (flag – A).
- Ensure proper communications are established.
- A permit to work system is to be used for the safety of the diver.
- Following areas will be inspected:
 - The above water part of the hull.
 - The actual and suspected contacted areas (as per the master’s records) will be inspected from outside as well as from inside if it is accessible.
 - Propeller (cracks, pitting etc.) and "propeller stern shaft clearance" or "propeller wear down" or “stern bush clearance”. Measured by using a poker gauge.
 - Under water shell coating.
 - Rudder, rudder “pintle clearance”, rudder bearings and bearing clearances (jumping clearance).
 - Sea chests and their arrangements.

O) Extended Dry Docking (EDD)

The “Extended dry-dock interval” presents the possibility for a vessel to be dry-docked every 7.5 years. This arrangement can only be applied to Container ships, General Cargo and Multi-Purpose Dry Cargo ships excluding single-skin construction up until the age of 15 years provided complying with certain criteria.

The applicable vessels are required to be dry docked only twice till 15 years of age and after that, she has to comply with the normal dry-docking intervals. EDD interval can be applied on new buildings as well as existing vessels. Existing vessels may implement EDD any time until the age of 10 years.

When complying with EDD, the bottom surveys required during periodical surveys will be performed in the scope of In-Water Surveys. That means there will be two IWS between each dry docking at intervals of 2.5 years. If the IWS results are not satisfactory, vessel must be drydocked.

The eligible criteria includes, among other things,

- Need to comply with the IWS requirements.
- A Planned Maintenance Scheme for hull and machinery shall be implemented.
- Ballast water tanks are required to have a corrosion prevention system with “good” coating condition.

- Vessel's Flag State has to approve the EDD interval.
- For new buildings following requirements to be fulfilled:
 - Dry film thickness of coating for 7.5 years with an average thickness of 300 µm
 - Anodes sufficient for 7.5 years or impressed current systems to be installed
- Existing vessels are required to be complied with the following requirements:
 - Dry film thickness of coating has to be a minimum of 250 µm
 - Anodes sufficient for 7.5 years or impressed current systems to be installed and documented in PMS

The Extended Dry-docking Scheme will be terminated in cases of;

- change of the ship's owner, or
- change of the ship's management or
- Flag.

P) Types of ship registries

The UNLOS III 1982 requires every State to have arrangements to grant its nationality to ships, for the registration of ships in its territory, and for the right to fly its flag. Ships have the nationality of the State whose flag they are entitled to fly, and further it states that there must be a genuine link between the State and the ship¹³². This is where the requirements for the registration of the vessels were originated.

Various states have developed different types of mechanisms to register ships as it is a good income to a country. Over the years, industry has categorized these registries depending upon the mechanisms used by those countries to register ships under their flag. Now, we shall briefly discuss about the types of ship registers in the world.

National registry

National registry means a flag state that allows only its citizens to register ships and these are also known as **closed registries** or **traditional registries** or **first registry** as well.

As an example, the following are qualified to be the owners/charterers of ships to be registered on the UK Ship Register¹³³:

- a British Citizen;

¹³² Article 91, UNCLOS III 1982

¹³³ UK Ship Register, A Guidance to Registration,

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/701034/2018_April_A_Guide_to_Registration_V3.pdf (Accessed: 04/12/2025)

- a British Dependent Territories Citizen;
- A British Overseas Citizen;
- Companies incorporated in one of the EEA countries;
- Citizens of an EU member state exercising their rights under articles 48 or 52 of the EU Treaty in the UK;
- Companies incorporated in any British overseas possession which have their principal place of business in the UK or those possessions;
- or European Economic Interest Groupings.

Flag of Convenience (FOC)

A flag of convenience (FOC) vessel is one that flies the flag of a country other than the country of ownership¹³⁴. As an example, a Sri Lankan registering his vessel in the Panamanian ship registry (Vessel owner is Sri Lankan and the vessel's flag is Panama). Ship owners use FOC countries to register their ships since;

- the registration fees are less;
- the taxes are low;
- there are no restrictions on the employment of foreign nationals onboard. Therefore, the crewing expenses are less and
- the expenses on the vessel's maintenance can be reduced as the FOC countries do not monitor the vessel's compliance with the international rules and regulations.

Sri Lanka is considered as a FOC country by the International Transport Workers' Federation (ITF)¹³⁵. But, in accordance with the Merchant Shipping Secretariat (MSS) of Sri Lanka, Sri Lanka is a **Flag of Opportunity**¹³⁶.

These are registries known as **open registries** as well. Some argues that there is a difference between an open register and a FOC (Open registers allows registration of ships belongs to foreign nationals and FOC allows foreign nationals to register ships with no restrictions for crewing onboard, less taxes, less regulations etc.), but, no reputed organization or country or administration has defined the meaning of 'open registry', whereas the meaning of the FOC is clearly defined by ITF. Similarly, no proper definition for 'Flag of Opportunity' as well. The compilers feeling is that there is not much difference between FOC, open register and flag of opportunity.

¹³⁴ ITF, Flags of convenience, <https://www.itfglobal.org/en/sector/seafarers/flags-convenience> (Accessed: 04/12/2025)

¹³⁵ ITF, Current registries listed as FOCs, <https://www.itfseafarers.org/en/issues/flags-of-convenience/current-registries-listed-focs> (Accessed: 04/12/2025)

¹³⁶ Requirements for the Sri Lankan ship registry, http://www.dgshipping.gov.lk/web/images/pdf/handbook_for_shipowners.pdf (Accessed: 04/12/2025)

Second registry

Historically, ship owners used to register ships in their own country and used to man the vessel with the same countrymen (National registries). But this became very costly, especially for ship owners of developed countries as the crew wages are high in accordance with the national requirements in those countries. Therefore, they started flagging out their vessels into other countries so that, they can employ foreign nationals (for less wages) onboard. To stop this and to attract foreign ship owners, some countries have created more than one registry.

As an example, Norway has two registries. NIS (Norwegian International Ship register) and NOR (Norwegian Ordinary Ship Register). Among other things NIS allows employment of foreign seafarers and foreign owners outside the EEA (European Economic Area) can register ships with NIS while owners in NOR must be Norwegian or EEA citizens/companies¹³⁷. Similarly, Germany has two registries know as ‘First Registry’ and ‘Second Registry’ (The second registry is also known as GIS – German International Ship Registry). The ITF considers that the German second registry is a FOC registry¹³⁸. Second registries are sometimes called as international registries or offshore registries as well.

Q) Biofouling

Biofouling is the accumulation of aquatic organisms such as microorganisms, plants and animals on surfaces and structures immersed in or exposed to the aquatic environment. Biofouling can include pathogens.¹³⁹



Biofouling of hull

¹³⁷ The Norwegian ship register, <https://www.skipsrevyen.no/artikkelarkiv/the-norwegian-ship-register/633905> (Accessed: 04/12/2025)

¹³⁸ ITF, Current registries listed as FOCs, <https://www.itfseafarers.org/en/issues/flags-of-convenience/current-registries-listed-focs> (Accessed: 04/12/2025)

¹³⁹ Refer Resolution MEPC.378(80) of IMO or the latest for further details

Microfouling is not visible to naked eye, but, still possible for the invasive species to transfer from one place to another.

Invasive species could be transferred to a new environment through biofouling as well like transferring of invasive species through ship's ballast water.

Through the above resolution, IMO encourages all the ships to have biofouling management plan and a biofouling record book to ensure biofouling is eliminated or reduced from ships.

Biofouling management plan is a ship specific document, **no approvals** required and can be updated when required. It should contain at least;

- a) details of the anti-fouling systems used in various areas of the vessel
- b) typical operating speeds, trading routes, planned dry docking periods
- c) description of hull locations susceptible to biofouling including;
 - schedule of planned inspections,
 - repairs, maintenance and
 - renewal of anti-fouling systems
- d) details of the recommended operating conditions suitable for the chosen anti-fouling systems and operational practices (which includes in water cleaning & maintenance procedures, schedule of planned inspections, repairs etc.)
- e) details relevant for the safety of the crew,
- f) details of the documentation required to verify any treatments recorded in the Biofouling Record Book

The record book should contain details of all inspections and biofouling management measures carried out on the vessel. The record book shall be retained onboard for the entire life of the vessel. it should contain at least;

- a) details of the anti-fouling systems and operational practices used (where appropriate as recorded in the Anti-fouling System Certificate), where and when installed, areas of the ship coated, its maintenance and, where applicable, its operation;
- b) dates & location of dry dockings (including the date of re-floated);
- c) measures taken to remove biofouling or repair the antifouling system;
- d) the date and location of in-water inspections, the results of that inspection and any corrective action taken to deal with observed biofouling;
- e) the dates and details of inspection and maintenance of internal seawater cooling systems, the results of these inspections, and any corrective action taken to deal with observed biofouling and any reported blockages; and
- f) details of when the ship has been operating outside its normal operating profile including any details of when the ship was laid-up or inactive for extended periods of time.

Such management practices can also improve a ship's hydrodynamic performance, as hull fouling leads to significant increases in ship resistance, which in turn has a severe impact both on fuel costs

and on emissions of air pollutants and greenhouse gases. Therefore, biofouling management can be an effective tool in enhancing energy efficiency and reducing air emissions from ships.

Ship maintenance procedures to eliminate biofouling

- a) Ship owners to select proper anti fouling system depending upon the planned periods of dry docking, ship speed, trade route etc.
- b) When installing, or repairing anti-fouling systems make sure proper surface preparation is done, especially in niche areas (area that are more susceptible for bio fouling) such as sea chests, bow / stern thruster areas, edges & weld joints etc.
- c) During dry docking;
 - ensure that areas under blocks are painted with anti-fouling, at least at alternate dry dockings;
 - Inspections & proper maintenance of bow / stern thruster areas to be done;
 - Recesses within rudder hinges and behind stabilizer fins need to be carefully and effectively cleaned and re-coated;
 - If anodes are flush fitted to the hull, a rubber backing pad should be inserted between the anode and the hull or the gap should be caulked.
- d) Periodical in water inspections, cleaning and maintenance recommended.

R) Change of Metacentre with the angle of heel

Consider a situation where the vessel is heeling to port side as illustrated in the figure below. When she heels to port side, the COB will start to move towards the port side since the underwater volume on the port side is increasing. Remember, the COB is the centre on the underwater volume of a vessel. therefore, when the vessel continues to heel the metacentre will start moving up.

At the same time, the waterplane area will increase when vessel heels. When the water plane area increases, ship's inertia will be increased. Since;

$$BM = I / V$$

Where, I = second moment of inertia

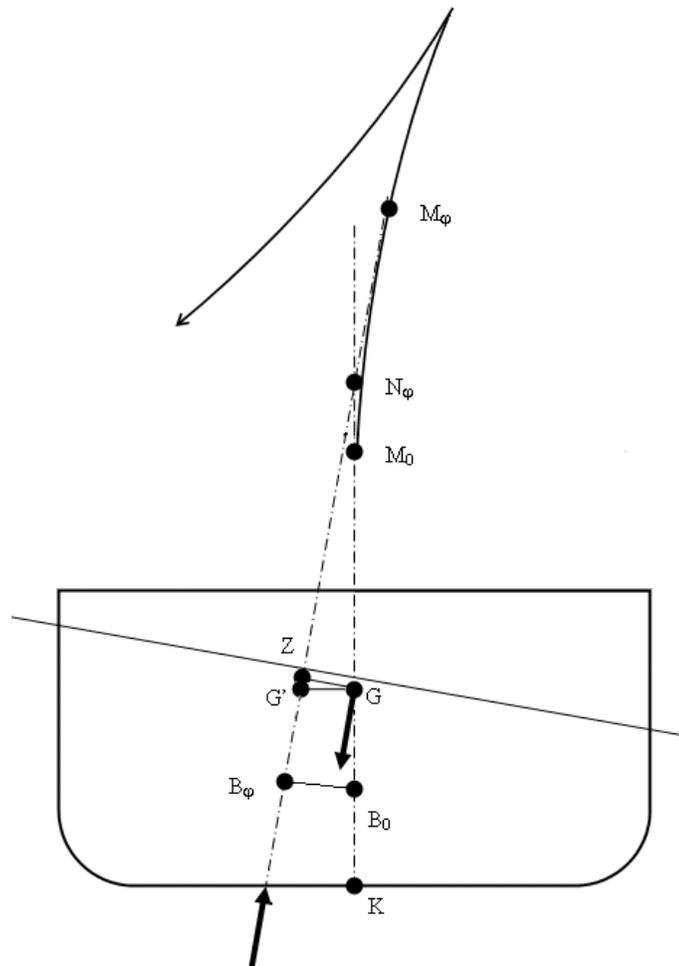
V = underwater volume of the vessel

Because of this, BM will increase. Since;

$$KM = KB + BM$$

KM will increase along with the heel, which also causes the metacentre to move up.

Since the metacentre is the intersecting point of two buoyancy forces, when a vessel is heeling the metacentre will start moving little away from the transverse centre line to the opposite side of the heel, in this case to starboard side.



Movement of the metacentre while rolling¹⁴⁰

S) Port and coastal State's responsibilities in accordance with UNCLOS III, 1982

Internal waters

Port state has full sovereignty over its internal waters. When a foreign vessel is in internal waters of another country, she will be under the civil and criminal jurisdiction of that country. As regards civil jurisdiction, matters which do not affect the coastal state are usually left to the flag state.

With regards to criminal matters, a concurrent jurisdiction is exercised over all foreign merchant ships in the internal waters, although as a matter of courtesy or comity such jurisdiction is seldom exercised unless the consequences of the crime extend beyond the ship¹⁴¹.

¹⁴⁰ Metacentric height, https://www.wikiwand.com/en/Metacentric_height (Accessed: 09/12//2025)

¹⁴¹ Cartner, J.A.C, Fiske, R.P., Leiter, T.L., 2009, The International law of the shipmaster, Routledge

Territorial waters¹⁴²

Ships are entitled to proceed in an innocent passage (not prejudicial to the peace, good order or security of the coastal State), which means, she shall not;

- threat or use of force against the sovereignty, territorial integrity or political independence of the coastal State;
- exercise or practice with weapons of any kind;
- collecting information to the prejudice of the defence or security of the coastal State;
- make propaganda aimed at affecting the defence or security of the coastal State;
- launch, land or take on board of any aircraft;
- launch, land or take on board of any military device;
- load or unload any commodity, currency or person contrary to the customs, fiscal, immigration or sanitary laws and regulations of the coastal State;
- carryout wilful and serious pollution contrary to this UNCLOS III;
- carryout fishing activities;
- carry out research or survey activities;
- make act aimed at interfering with any systems of communication or any other facilities or installations of the coastal State;
- do other activity not having a direct bearing on passage.

Criminal jurisdiction over a foreign ship¹⁴³

Coastal state may arrest a person or investigate incidents on board foreign ships while passing **through territorial sea**, if;

- the consequences of the crime extend to the coastal State;
- the crime is of a kind to disturb the peace of the country or the good order of the territorial sea;
- the assistance of the local authorities has been requested by the master of the ship or by a diplomatic agent or consular officer of the flag State; or
- such measures are necessary for the suppression of illicit traffic in narcotic drugs or psychotropic substances.

If a foreign ship has left the internal waters, and a criminal matter is arising the criminal jurisdiction extends up to the territorial waters. That means the coastal state may arrest or carryout investigations onboard while the vessel is in territorial waters.

¹⁴² Article 19, UNCLOS III, 1982

¹⁴³ Article 27, UNCLOS III, 1982

However, the coastal State is not permitted to take actions if the vessel is only passing through the territorial sea without entering internal waters and the crime was committed before the vessel entered its territorial sea.

Unless in an emergency, if the master requests, the coastal state may notify a diplomatic agent or consular officer of the flag state and facilitate contact between such agent or officer and the ship's crew before taking any steps,

Civil jurisdiction over a foreign vessel¹⁴⁴

The coastal State should not stop or divert a foreign ship passing through the territorial sea for the purpose of exercising civil jurisdiction in relation to a person on board the ship.

Contiguous zone¹⁴⁵

While a vessel is in a contiguous zone, the coastal state may exercise the control necessary to:

- prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea;
- punish infringement of the above laws and regulations committed within its territory or territorial sea.

Exclusive Economic Zone

Coastal states may¹⁴⁶;

- explore and exploit, conserve and manage the natural resources in the area including the seabed;
- establish and use artificial islands, installations and structures
- carryout marine scientific research;
- protect and preserve the marine environment;
- have other rights and duties provided for in this Convention.

All ships have freedom of navigation in the EEZ¹⁴⁷.

¹⁴⁴ Article 28, UNCLOS III 1982

¹⁴⁵ Article 33, UNCLOS III 1982

¹⁴⁶ Article 56, UNCLOS III 1982

¹⁴⁷ Article 86, UNCLOS III 1982

High seas

High seas mean the sea areas excluding internal water, territorial sea and EEZ. All the vessels have the freedom of navigation in high seas. Apart from it, all the states have the freedom to¹⁴⁸;

- lay submarine cables and pipelines;
- construct artificial islands and other installations;
- do fishing;
- do scientific research.

Penal jurisdiction in matters of collision or any other incident of navigation¹⁴⁹

In case of a collision or other incident in navigation **in high seas**, only the flag state or national state of the people (national state of seafarers involved) who are responsible for the incident may take judicial actions against them.

Irrespective of the nationality of the master, the certificate issuing state can withdraw such certificates after due legal process.

No arrest or detention of the ship, even as a measure of investigation, shall be ordered by any authorities other than those of the flag State.

Illicit traffic in narcotic drugs or psychotropic substances¹⁵⁰

All States shall cooperate in the suppression of illicit traffic in narcotic drugs and psychotropic substances engaged in by ships on the high seas contrary to international conventions.

Pollution from vessels¹⁵¹

States, acting through the competent international organization or general diplomatic conference, shall establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels. (Compiler's comment – This is the provision to adopt pollution prevention regulations like MARPOL, Antifouling Convention etc.)

¹⁴⁸ Article 87, UNCLOS III, 1982

¹⁴⁹ Article 97, UNCLOS III, 1982

¹⁵⁰ Article 108, UNCLOS III, 1982

¹⁵¹ Article 211, UNCLOS III, 1982

Enforcement by coastal States¹⁵²

Vessels navigating in the EEZ or the territorial sea of a State has, in the EEZ, committed a violation of applicable international rules and standards for the prevention, reduction and control of pollution from vessels which that state is a party, resulting in a substantial discharge causing or threatening significant pollution of the marine environment, that State may undertake physical inspection of the vessel for matters relating to the violation if the vessel has refused to give information or if the information supplied by the vessel is manifestly at variance with the evident factual situation and if the circumstances of the case justify such inspection.

Measures to avoid pollution arising from maritime casualties¹⁵³

Coastal states may take and enforce measures **beyond the territorial sea** proportionate to the actual or threatened damage to protect their coastline from pollution or threat of pollution following upon a maritime casualty or acts relating to such a casualty, which may reasonably be expected to result in major harmful consequences.

T) Fatigue and fatigue management¹⁵⁴

As managers onboard ships, masters are required to have a good idea about fatigue and fatigue management. Therefore, following summery is taken from MSC.1/Circ.1598 on “Guidance on fatigue”, to give you a basic understanding on the subject.

Fatigue means is a condition of physical and/or mental impairment due to;

- inadequate sleep,
- extended wakefulness,
- work/rest requirements out of synchronized with circadian rhythms and
- physical, mental or emotional exertion that can impair alertness and the ability to safely operate a ship or perform safety-related duties.

Fatigue is a problem for all 24-hour-a-day transportation modes and industries, including the maritime industry. Nature of shipping may require;

- the seafarers to work long and irregular hours;
- to work extended hours/contracts periods onboard with varying environmental conditions
- the seafarers to stay and work at the same place
- to work without clear separation between work and recreation

¹⁵² Article 220, UNCLOS III, 1982

¹⁵³ Article 221, UNCLOS III, 1982

¹⁵⁴ Refer MSC.1/Circ.1598 of IMO or the latest for further details

A person may encounter fatigue due to various reasons which includes;

- lack of sleep;
- poor quality of sleep and rest;
- Work/sleep does not match with human circadian rhythm (refer next slide);
- staying awake for long periods;
- stress; and
- excessive workload (prolonged mental and/or physical exertion).

This a very dangerous phenomena specially in the transport sector. Because a fatigued person may encounter one or couple of the below mentioned problems which may lead to catastrophic situations.

- Inability to concentrate
- Diminished decision-making ability
- Poor memory
- Slowing of cognitive processes
- Involuntary need to sleep
- Loss of control of bodily movements
- Health Issues
- Mood change
- Change of attitude

There are many ways to categorize the causes of fatigue. To ensure thoroughness and to provide good coverage of most causes, they have been categorized into five general factors:

- seafarer-specific factors;
- management factors (ashore and aboard ship);
- ship-specific factors;
- environmental factors; and
- operational factors.

Now we will discuss the above categorized factors in little detail.

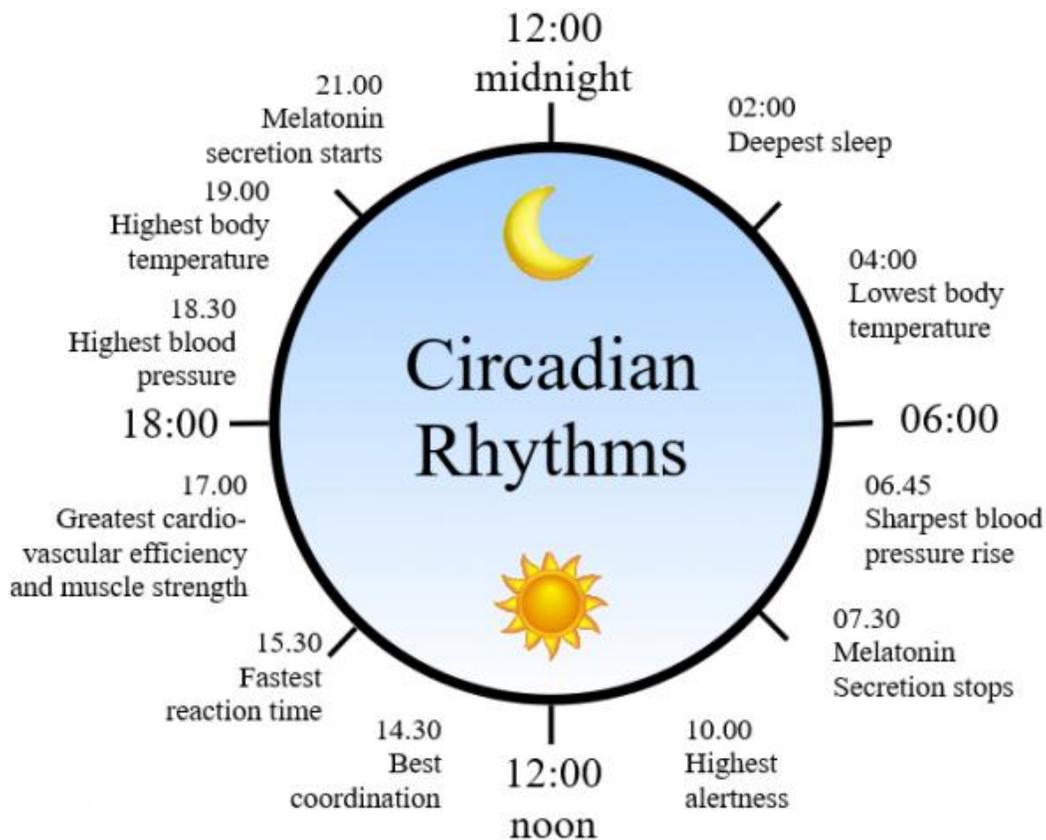
Seafarer-specific factors

The seafarer-specific factors are related to lifestyle, behaviour, personal habits and individual attributes. Fatigue varies from one person to another and its effects are often dependent on the particular activity being performed. Following to be considered when it comes to seafarer specific factors.

- Problems with sleep and rest;
 - quantity, quality and continuity of sleep;

- sleep disorders/disturbances; and
 - recovery rest/breaks;
- How the body clock/Circadian rhythms affect;

For millions of years, we humans are used to work during day time and sleep during night time. Therefore, we have a biological clock set in our brain. This is also known as circadian rhythm. Refer the below illustration¹⁵⁵.



Melatonin is a hormone which makes sleepiness. Therefore, in accordance with the above diagram, from 2100 hrs to 0730 hrs, mind is not working properly as it wants to sleep.

- Effects of psychological and emotional factors;
 - fear;
 - monotony and boredom;
 - loneliness;
- How does the health and well-being is infected;
 - diet/nutrition/hydration;
 - exercise and fitness; and
 - illness and onset of illness;

¹⁵⁵ <https://www.luxreview.com/2016/05/10/two-minute-explainer-circadian-rhythms/>

- Tolerance of Stress may depend upon;
 - skill, knowledge and training as it relates to the job;
 - personal issues of concern in personal life; and
 - interpersonal relationships at work or at home;

- Medication and substance use;
 - alcohol;
 - drugs (prescription and non-prescription);
 - supplements; and
 - caffeine and other stimulants;

- Age;
- Shift work and work schedules;
- Workload (mental/physical); and
- Jet lag

Jet lag is the change of time when going from country to country. As an example, if you happen to go to Singapore from Sri Lanka and if you are used to sleep at 2200 hrs (SL time), you may not feel sleepy till mid night in Singapore. You need one or two days to get use to the new time.

Management factors (ashore and aboard ship)

Management factors relate to how ships are managed and operated. These factors can potentially cause stress and an increased workload, ultimately resulting in fatigue. These factors include:

- Organizational factors;
 - manning levels and retention
 - administrative work/reporting/inspection requirements;
 - shore-based support;
 - maintenance and repair of the ship;
 - drill schedules and training of crew etc.
- Voyage and scheduling factors;
 - Frequency of port calls
 - weather and sea condition on route;
 - traffic density on route;
 - availability of shore leave etc.

Ship-specific factors

These factors include some ship features that can affect and contribute to fatigue. Some ship design features affect workload (i.e. automation, equipment design and reliability), some affect the crew's

ability to sleep, and others affect the level of physical stress on the crew (i.e. noise, vibration, accommodation spaces, etc.). The following list details some influential ship-specific factors:

- Ship design;
- Level of redundancy;
- Equipment design and reliability;
- Inspection and maintenance;
- Condition of the ship;
- Location of quarters;
- Physical comfort of accommodation spaces
- Ship motion etc.

Environmental factors

Environmental factors within areas in which seafarers live and work may contribute to the onset of fatigue, and impact both sleep quantity and quality. Environmental factors to consider include noise and vibration, light, ship motion, temperature and humidity, and ventilation/air exchange. Long-term exposure to some of the following may impact a person's health:

- Noise;
- Vibration;
- Light;
- Ship motion;
- Temperature & humidity (Best temperature for sleeping is between 18⁰ C to 24⁰ C);
- Ventilation & air exchange etc.

Operational factors

While seafarers, companies, Administrations and port State authorities are the primary actors, many other stakeholders may also have an impact on shipboard operations and workload. Aspects to consider include;

- Inspections;
- Surveys;
- Audits;
- Visits;
- Reporting;
- security measures and
- any other additional tasks to be performed on board.

How to identify a fatigued person

A fatigued person may show one or couple of symptoms listed below.

- Neglecting important areas when decision making
- Slow or no response even in emergencies
- Lapses of attention
- Poor judgement of distance, speed, time, etc.
- Difficulty in concentrating
- Inability to stay awake
- Difficulty with hand-eye coordination skills
- Speech difficulties
- Increased frequency of dropping objects
- Digestion problems
- Anti-social behaviour
- Mood changes
- Ignores normal checks and/or procedures
- Increasing omissions, mistakes

Company responsibilities

Companies shall ensure to take reasonable measures to mitigate fatigue onboard. As the shipowner's representative onboard, the master has to consider of complying with them which are mentioned below;

- Clear, concise guidance on operational procedures on board;
- Adequate resources, including manning levels;
- Promote a safety reporting culture;
- New joiners to be adequately rested;
- Proper time schedules for handing/taking over;
- Multicultural issues; language barriers, social, cultural and religious isolation;
- Interpersonal relationships, stress, loneliness, boredom etc.;
- Provision for shore leave and onboard recreation, family communication;
- Watchkeeping arrangements; and
- Job rotation, if practicable;

Master's and Chief Officer's duties in mitigating and managing fatigue

Apart from the company responsibilities, the senior officers also have a role to play in mitigating and managing fatigue. These may include:

- Compliance with minimum hours of rest and/or maximum hours of work
- Proper resting of new joiners
- Manage HEAVY and long working hours
- Nutritious food & drinking water is provided
- Provided appropriate meal choices for night shift workers
- Managing of interaction with shore and ship
- Ensure correct people are selected depending upon the type of work to be performed.
- Improving shipboard conditions & proper scheduling of work
- Avoiding potentially hazardous tasks during the circadian lows
- Making awareness of fatigue and conduct fatigue related training
- Report and reduce the impacts of ship design

Training on fatigue and fatigue management

It is also better to give proper training on fatigue and how to manage fatigue to officers and crews as well. This will enhance the safety onboard. Training may include;

- Fatigue, its causes and potential consequences
- Circadian rhythms and body clock
- Importance of proper sleep
- Fatigue countermeasures
- Basic information on sleep disorders
- Understanding of the rules and regulations
- How to identify fatigue
- How to mitigate fatigue
- Importance and responsibility of reporting

How to maintain fitness for duty

Training shall also include how to maintain fitness by;

- taking strategic naps (the most effective - 20 minutes);
- taking advantage of scheduled breaks;
- monitoring and effectively manage sleep
- monitoring fitness for duty including medical fitness;
- reporting any fatigue impairment in themselves and in others
- recording and report actual hours of work and rest

- eating regular, well-balanced meals;
- exercising regularly; and
- limiting the use of medications (if possible)

U) Managing risks onboard

Risk assessment is the process of risk identification, analysis and evaluation. **Risk management** is the coordinated activity to assess, control and monitor risk¹⁵⁶. Following shall be considered when managing risks:

- Study the former accidents and injury records onboard, near miss records, requirements of the ship's SMS, company circulars and accident injury reports within the fleet. These records and reports will help you to take **proactive measures** in managing risks. Basically, this means application of lessons learned.
- Identify the risks involved with various duties onboard. This may also depend upon the age of the ships, equipment onboard, trade, type of the vessel, number of people onboard etc.
- Critically analyse the hazards involve with the present process onboard the vessel against the lessons learned and international standards.
- Evaluate the existing controls against the international standards.
- Discuss with the senior management onboard to decide the amendments to be entered into the existing process.
- Apply or implement additional controls and monitor the success of the same while re-assessing it when changing circumstances.
- Evaluate the outcome and see if any further amendments are required.
- Finally, remember the analysing and the evaluation of the existing process has to be an ongoing process.

V) Social securities available for Sri Lankan seafarers

In accordance with Standard A4.5 (2) and (10) of the MLC 2006, the Government has specified the following branches of social security:

- old-age benefit;
- employment injury benefit;
- invalidity benefit and
- survivors' benefit¹⁵⁷.

¹⁵⁶ <https://britaniapandi.com/2024/08/understanding-effective-risk-assessment/> (Accessed 12/12/2025)

¹⁵⁷ https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:80011:0::NO::P80011_COUNTRY_ID:103172 (Accessed 12/12/2025)

“Navikaya” Social Security Scheme adopted through ‘Implementing Standards No. MLC/02/2025’. This requires shipowners to remit 40 US\$ (for other than officers and engineers) and 50 US\$ (for officers and engineers) to Sri Lanka Social Security Board through Seafarers Recruitment and Placement Service Providers (SRPS) monthly basis related to the period of service on the ship.

Individual seafarers are responsible for getting the contribution from the ship owners and this shall be included in the monthly salary slip.

Each SRPS shall make sure that each seafarer is a member of the social security scheme when issuing the Seafarer Employment Agreement.

Seafarers can take the membership either by paying by himself or payment by SRPS provider.

ANNEX – I (Sri Lankan Crew Agreement)

Note for the candidates

A master is required to have a good idea of the agreement made between the shipowner and the seafarers working onboard which includes such as the holidays, payments etc. A Crew Agreement used onboard Sri Lankan flag vessels are provided below. The same agreement is used by DGMS while signing on Sri Lankans on foreign flag ships.

This agreement is available onboard the Sri Lankan flagged vessels and the information with regards to wages, OT, holidays, monetary fines etc. are included in it. When signing on, a Sri Lankan seafarer on a foreign flagged vessel, the whole agreement will be completed by the shipping office on the information provided by the recruiting agency.

SRI LANKA CREW AGREEMENT

(Under the Merchant Shipping Act, Na. 52 of 1971)

1. Agreement made in Colombo on":..... day of..... 20..... between the owner/charterer/operator/authorised agent as employer and officers/seamen as employees for employment on the Vessel M.V. particulars of which are given below :—
 - a) Name of Vessel, Type and Flag :
 - b) Year Built :
 - c) Official No .
 - d) Port of Registry :
 - e) Registry No. and Year :
 - f) Registered tonnage — Gross :
Net :
 - g) H. P. of Engine :
 - h) Certified accommodation for Crew :
 - i) Name and Address of Registered Owner/Charterer/Operator
Telex : Telephone No. :
 - j) Name and Address of Authorised Agent
Telex : Telephone No. :

2. The Owner/Charterer/Operator/Authorised Agent agrees to :
 - a) Employ the officer/seamen whose names are given under paragraph 9 for a period of months in the capacities as indicated against each person.
 - b) Pay the wages, overtime and other allowances as indicated in paragraph 9 of this agreement.

- c) Pay a risk allowance in the event of a voyage to a war zone. The master however shall not insist on the Officers/seamen sailing to a blockaded port in a war zone.
- d) Pay tanker allowance if officers/seamen are transferred to a vessel carrying hazardous cargo such as crude oil, liquid chemicals or gas in bulk. The tanker allowance shall be paid also for the period of subsequent ballast voyage after discharge to the next loading port.
- e) Pay compensation for extra duties such as scaling boilers, cleaning hatches, tanks, etc. at rates provided for in para. 9.
- f) Give protective clothing or gear if vessel is carrying chemicals (solid or powdered form) or any radioactive material hazardous to health. Provide adequate winter clothing during the winter season.
- g) Pay:
 - i. Monthly allotment without undue delay.
 - ii. Wages and allowances of each month within 30 days from the last day of the month
 - iii. All wages and allowances in US \$ or convertible currency as agreed of signing the Agreement.
- h) Restrict the number of working hours per week per person to 44 hours and to pay overtime for work done in excess of 44 hours.
- i) Grant days leave per month of service or *pro rata*.
- j) Grant 8 days holidays to officers/seamen per calendar year as mutually agreed. Crew to be paid overtime if employed on these days. (8 *Public Holidays*-Thai Pongal, Independence Commemoration Day (Feb. 4th), Sinhala & Tamil New Year Day, May 1st, Wesak Full Moon Day, National Heroes' Day (May 22nd), Hadji Festival Day & Christmas Day.)
- k) Grant shore leave to crew at the discretion of the Master when not required for work consistent with the safety of the vessel and cargo and with the operational needs of the vessel.
- l) Grant or make available medical treatment to an officer/seamen for injuries received during his service on board or for natural illnesses.
- m) Have adequate and proper Protective and Indemnity cover at all times.
- n) Pay compensation.—
 - i. In case of death arising out of and in the course of employment but not caused by officer's/seamen's wilful act, default or misbehaviour, a lump sum to his legal heirs equivalent to 48 months basic pay or US \$ 10,000 or the amount of compensation in terms of the national law of the flag of the vessel, whichever is the highest of the three amounts.
 - ii. In case of personal injury resulting in permanent incapacity arising out of and in the course of service for injury not caused by the officer's/Seamen's wilful act, default or misbehaviour, payment of 60 months basic pay or US \$ 12,500 or the amount of compensation according to the national law of the flag of the vessel whichever is the highest of the three amounts.
 - iii. In case of personal injury resulting in partial incapacity arising out of and in the course of service not caused by the officer's/seaman's wilful act or default or misbehaviour a sum

determined on a proportionate basis to the degree of incapacity as ascertained and certified by a doctor or a medical board appointed for the purpose.

The Schedule below may be followed for guidance for assessing the percentage of disability. In the case of an injury not indicated in this Schedule the percentage of disability shall be ascertained by a doctor or a medical board appointed for this purpose.

Schedule of Injuries deemed to Result in Permanent Partial Disablement

Injury	Percentage of Loss of Earning Capacity
loss of use of right arm above or at the elbow	70
loss of left arm above or at the elbow	60
loss of right arm below the elbow	60
loss of leg at or above the knee	60
loss of left arm below the elbow	50
loss of leg below the knee	50
Permanent total loss of hearing	50
loss of one eye	30
loss of thumb	35
loss of all toes of one foot	20
loss of one phalanx of thumb	10
loss of index finger	10
loss of great toe	10
loss of any finger other than index finger	05

- o) Pay compensation in the event of discharge without fault on the officer's/seaman's part justifying such discharge a sum in addition to the wages earned as the Shipping Officer may fix having regard to the circumstances relating to the discharge provided that the compensation so payable shall not exceed.
- i. in the case of an officer/seaman who has been discharged before the commencement of a voyage one months wages ; and
 - ii. in the case of an officer/seaman who had been discharged before the completion of the contract, three months wages.
- p) 1. Pay all wages allowances due to officers/seamen at the time of their discharge.
Such wages and allowances to be paid upto the time of their arrival in Sri Lanka.
2. Contribute 2 per cent of the basic wages of the officers/seamen employed on this vessel and 3 percent of the basic wages by the Owners to the Sri Lanka Seamen's Welfare Fund or Scheme. Such contribution shall be made directly to the Shipping Officer, Sri Lanka monthly and sent along with a Statement of Contributions.

- q) Arrange for the repatriation of officers/Seamen on termination of Agreement or on their being discharged for any reason and to meet the full cost of their travel to Sri Lanka including the cost of hotel accommodation and meals, whilst in transit. A sum of US \$ 10 per day for officers and US \$ 5 per day for seamen shall also be paid as incidental expenses. The expenses for repatriation shall not be a charge on the officers/seamen if they are left behind by reason of :
- i. injury sustained whilst in the service of the vessel,
 - ii. shipwreck,
 - iii. illness not due to their own wilful acts or default, or
 - iv. discharge for any cause for which the crew member cannot be held responsible
- r) Provide officers/seamen with food in conformity with internationally accepted standard.
- s) Comply with the following procedures in enforcing penalties for offences listed in the attached schedule. A statement of the offence immediately after its commission shall be entered in the official log book by the direction of the Master and at the same time shall be attested to be true by the signatures of the Master and another Officer or one of the crew and a copy of such entry shall be furnished or the same shall be read over to the offender, before the vessel reaches any Port or departs from the port at which the vessel is and an entry that the same has been so furnished or read over and of the reply if any of the offender shall be made and signed in the same manner as the entry of the offence. These entries shall upon discharge of the offender be sent or shown to the Shipping Officer before whom the offender is discharged and if the officers/seamen are discharged at a foreign port, the entries shall be sent to the Shipping Officer. If the Shipping Officer is satisfied that the offence is proved and that the entries have been properly made, the fine shall be deducted from the offenders wages, and paid to the Shipping Officer as provided for under the Merchant Shipping Act, No. 52 of 1971.

3. Officers/seamen who have read and signed this Agreement agree to :

- (a) serve on the vessel M.V. in the capacities indicated against their names in Para. 9.
- (b) conduct themselves in an orderly, faithful, honest and sober manner and to be diligent at all times in the performance of their respective duties.
- (c) be obedient to the lawful commands of the Master or any superior officer on all matters relating to the said vessel and the stores and cargo thereof whether onboard or on shore.
- (d) ensure that all stores and any other items issued for their use and consumption on board and remaining unused at the time of their discharge shall be returned to the Master/Chief Officer or any other officer designated by the Master for that purpose.
- (e) observe the following working hours:
 - (Deck Engine and Catering department)
 - At sea — 44 hours per week including sailing and arrival dates
 - In Port — 8 hours per day from Monday to Friday
 - 4 hours on Saturday

- f) work overtime on any day of the week including holidays or any time of the day when ordered by the Master or an officer. To work overtime without payment in cases of emergency involving the safety of the vessel, cargo Passengers and crew and in rendering service to other vessels in distress.
 - g) not to embezzle, wilfully or negligently destroy vessels property, cargo, stores, etc. If found guilty of these offences agree to make good from their wages to the owner of the vessel, the full cost of such property, cargo, stores, etc.
 - h) Permit owners to deduct two percent of their basic wages to be remitted to the Seamen's Welfare Fund or Scheme in Sri Lanka.
 - i) not to bring contraband on board. If any fine be imposed on the vessel by Customs authorities for offences committed by the officers/seamen such fines to be recovered from the wages of the offending officers/seamen.
 - j) refrain from any illegal activity detrimental to the owner and in particular smuggling, pilferage, stoppage of work.
 - k) be liable for punishment committed in breach of discipline as indicated in the attached schedule at Para. 2 (s).
 - l) make representations in the event of any dispute with the owners/master regarding the implementation of the terms and conditions of this Agreement only to the Shipping Officer Government of Sri Lanka or to a Consular Officer of a Sri Lankan Embassy and to no other organisation or institution. However where an officer/seamen has no means of communicating with any of the above mentioned officers, he may seek assistance from the Governmental shipping master or principal officer of that port in order to enforce the terms and conditions of this Agreement.
 - m) that if the officers/seamen contravene the terms and conditions of this Agreement, the Shipping Officer may after due inquiry impose such punishments as he may deem fit including fines, confiscation, suspension and cancellation of CDC and the removal of officers/ seamen names from the employment register.
 - n) that if the officers/seamen compel the shipowner/charterer/operator authorised agent to pay them any sums of money in excess in contravention of this Agreement and under compulsion such money obtained shall be refunded to the Shipowner/Charterer/Operator Authorised Agent. If such officers/seamen do not refund such sums of money within 30 days from their date of discharge from the vessel, they are liable to be prosecuted. These officers/seamen shall not be allowed to obtain employment until and unless they have refunded the excess money to the Shipowner/Charterer/Operator/Authorised Agent.
4. It is mutually agreed by both parties that these Articles of Agreement are governed by the provisions of the Laws and Constitution of the Democratic Socialist Republic of Sri Lanka.
5. Any complaint or dispute arising from the interpretation of the terms and conditions of these Articles shall be settled by arbitration by an arbitrator and shall be final and binding on both parties and such arbitration shall be held at the port where the Articles are signed. The parties hereby agree to nominate the Shipping Officer of the Government of Sri Lanka as the arbitrator.

6. Any other contract signed between Shipowner/Master/Charterer/Operator/Authorised Agent and the officers/seamen which is in any way derogatory to the terms and conditions stipulated in this Agreement, shall be null and void.

In witness whereof the said parties have subscribed their names herein, on the dates mentioned against their respective signatures, at Para (9).

IN THIS AGREEMENT:

7. **"Seaman"** means any Sri Lankan possessing a Continuous Discharge Certificate Book issued by the Shipping Officer of Sri Lanka and who is actually engaged to work on the vessel as a member of the crew after signing Articles of Agreement at the Shipping Office.

"Officer" means a member of the crew other than the Master but including the Chief Engineer designated as such by the Sri Lankan Law or Regulation or in the absence of such Regulation by Collective Agreement or Custom and who is engaged to work on the vessel after signing Sri Lankan Articles of Agreement.

"Owner/Charterer/Operator" means the person who actually engages the Sri Lankan and who is responsible for the due performance of this contract and for the operation of the vessel.

"Authorised Agent" means any Licensed Shipping Agent under the Licensing of Shipping Agents Act, Mo. 10 of 1972 who selects and engage the Crew on behalf of his principals namely Owner/Charterer/Operator.

SCHEDULE OF PUNISHMENTS

No.	Offence	Amount of Fine or Punishment	Shipping Officer's Signature or Initials
1	Absence without leave	Seven day's pay	
2	Quarrelling or provoking to quarrel	Seven day's pay	
3	Swearing or using improper language	Seven day's pay	
4	Smoking in unauthorised place	Seven day's pay	
5	(For the Cook) Not having any meal of the crew ready at the appointed time	Seven day's pay	
6	Insolence or contemptuous language or behaviour towards the Master or any Mate	Dismissal	
7	Striking or assaulting any person on board or belonging to the ship	Dismissal	
8	Bringing or having on board spirituous Liquors when prohibited	Dismissal	
9	Secreting contraband goods on board with intent to smuggle	Dismissal	
10	Smuggling or violation of any Customs rules and regulations in Sri Lanka or foreign port	Dismissal	
11	Carrying knife or other offensive weapons or arms or instruments other than a clasp knife	Dismissal	
12	Drunk while on duty	Dismissal	
13	Being under the influence of drugs	Dismissal	
14	Possession of drugs, narcotics on board	Dismissal	
15	Gambling	Dismissal	
16	Disobedience to lawful commands (if not otherwise dealt with according to law)	Dismissal	
17	Sleeping or negligence while on the look out	Dismissal	
18	Wilful neglect of duty or any activity which will hamper the efficient operation of the vessel	Dismissal	
19	Pilferage or stealing	Dismissal	
20	Destroying or defacing or stealing the copy of the Agreement which is made accessible to the crew	Dismissal	

Paragraph 9

NAME OF VESSEL M. V.

Agreement No.

Serial No.	Names & signatures of officers/seamen	Date of birth	CDC No. & date of issue	Nationality & Passport No.	Last ship date of discharge	Date & place of signing agreement	Rank & Cert. no	Wages	O.T.	Other allowances	Allotment	Signature of Shipping Officer	Date	Place	Cause	Balance wages paid	Signature of seaman	Signature of official before whom release signed
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

ANNEX – II (Official logbook on Sri Lankan flag ships)

Note for the candidates

Masters sailing on Sri Lankan flag ships and candidates applying for Sri Lankan CoCs are required to familiar with the Sri Lankan regulations & the contents of Sri Lankan official logbooks. Therefore, abstracts of a Sri Lankan official logbook are provided below.

The page number of the official logbook can be found at the middle, top of each page. Following pages shall be read in parallel;

- Pages 8 (left side) & 9 (right side) AND
- Pages 24 (left side) & 25 (right side)



OFFICIAL LOG-BOOK

A FOREIGN-GOING OR A HOME-TRADE SHIP

Official number :			
Name of Ship	Port of Registry	Registered Tonnage	
		Gross	Net

Port at which and Date when voyage commenced	Nature of the Voyage or Employment	Port at which and Date when voyage terminated
Port :		Port :
Date :		Date :

Name of Master	No. of Certificate if any

Delivered to the Shipping Officer of the Mercantile Marine Office at the Port of
on the day of19.....

Counter signed Master
..... Address
Shipping Officer

Note – In the case of a Foreign-going ship, the Official Log-Book is to be delivered to the Shipping officer with Forty-eight hours after the Ship's arrival or upon the discharge of the Crew, whichever first happens. In the case of a Home-trade ship of less than 200 Tons Gross the Official Log-Book for the preceding half year is to be delivered to a Shipping Officer with 21 days after the 30th of June or the 31st of December. The Official Log-Bok for a Home Trade vessel of 200 tons or more Gross Tonnage is to be delivered to the Shipping Officer before whom the Crew is discharged.

(3)

List of Crew and Report of Character – (Continued)

No.	Name and Surname of each member of the Crew	Capacity In which engaged	Report of Character		If there is any entry in the Official Log relating to a member of the Crew, the page or pages where the entry is to be found should be noted in this column opposite his name
			For Ability	For General Conduct	
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					

**MARRIAGES, BIRTHS, AND DEATHS OF MEMBERS OF THE CREW
AND OTHER PERSONS ON BOARD, WHICH HAVE
OCCURRED DURING THE VOYAGE**

Marriages.—Section 128 of the Merchant Shipping Act, No. 52 of 1971 requires the Master of the Ship to enter in his Official Log the particulars of every Marriage that has taken place on board. Masters are reminded that they have no power to perform the marriage ceremony on board their ships, and that if such ceremony is performed by them the marriage will not be a legal one.

Births and Deaths.—The duties of the Master with regard to the registry of births and deaths on board ship are defined in the following extracts from Sections 129 and 130 of the Merchant Shipping Act, No. 52 of 1971.

- (a) requiring the master of any such ship to record any such birth or death and to send a return thereof to a Shipping Officer or other officer or authority ;
- (b) requiring the master of any such ship to notify any such death to such person (if any) as the deceased may have named to him as his next of kin ;
- (c) requiring the transmission of returns by Shipping Officers and other officers and authorities to such authority as may be prescribed ;
- (d) the preservation and filing in a register of such information as may be desirable for the purpose of ensuring the completeness and correctness of a register of such births and deaths ;
- (e) any incidental or supplementary matters for which the Minister may think it expedient to provide for the purposes of the regulations.

In every case of death or disappearance the Master should state full particulars of the circumstance in the narrative section of the log book.

When the death of a person at sea is assumed by the Master to have taken place because the person in question is reported ' *Missing* ', or where a person is supposed killed or drowned as a result of falling or jumping overboard, falling from a rope ladder attached to the ship, or from the ship's gangway, the death should be regarded as having taken place on board.

A death which occurs otherwise than on board or does not come within the exceptions stated in the previous paragraph should not be recorded in the tabular statement or on appropriate forms ; *appropriate forms should be used for reporting such deaths.* The Master should, however, record in the narrative section of the official log book full particulars of the circumstances relating to the death.

When the death of a ' missing ' person is assumed by a Master the entry in the tabular statement should read : " missing at sea supposed killed or drowned ".

Expressions such as ' murder ' or ' suicide ' should not be used to record the cause of death. The Master should, to the best of his ability, record the actual cause of death, e.g. " knife wounds in chest ", " gun shot wounds in head ", " strangulation ".

When reporting the required particulars in appropriate form, the Master should also, if required, give an account of (a) any moneys due to the deceased seaman or apprentice, (b) any deductions from his wages and (c) his clothing and effects, on the relevant Form. The form will be supplied by the Superintendent, Consular Officer or Shipping Officers on request.

(9)

(See Instructions on previous page)

Profession or Occupation	Father's Name (Surname in block letters)	Father's Profession or Occupation

† Signature of Master :

and that if such ceremony is performed by them the marriage will not be a legal one.

(See Instructions on previous page)

Further Particulars of Father		Further Particulars of Mother		Signature of Farther or Mother	Signature of †Master and Mate or other Member of Crew	To be completed by Officer to whom Return is made
Nationality (Stating birthplace)	Last Place of Abode	Nationality (Stating birthplace)	Last Place of Abode			Port at which Report Is made and Signature And Title of Officer to whom reported

(See Instructions on previous page)

Last Place of Adobe	Cause of Death (See Instructions on previous page)	Signature of † Master	Signature of Mate or other Member of the Crew	Signature of Surgeon or Medical Practitioner (if any)	To be completed by Officer To whom Return is made
					Port at which Report is made and Signature and Title of Officer to whom reported
than Asiatic	and East African Seam	en†) including Ma	sters		
(see footnote	‡)				
Members of	the Crew				

Should be recorded in the column for "Rank or Rating, Profession, or Occupation", In the case of an illegitimate child the full name of the mother instead of the father should be recorded.

EMPLOYMENT OF SEAMEN

When this Official Log-Book is returned to the Shipping Officer or Superintendent, the following Form should be filled up and signed by the Master :—

The following Seamen were employed during the voyage ended this day :—

Voyage	Deck Department	Engine Department	Steward's Department		Total
			Certd. Ship's Cook	Others	
From the Republic of Sri Lanka					
To the Republic of Sri Lanka					

Under Deck Department, include all such Seamen employed in connection with the navigation of the Ship, or in looking after the cargo.

Under Engine Department, include all such Seamen employed in attending on machinery.

Under Steward's Department, include all such Seamen employed in attending on passengers or crew.

Master : Date :

The following are the FEES chargeable for services rendered by Consular Officers, in connection with the Official Log :—

	<i>Rs. c.</i>
(i) Examining provisions or water, to be paid by the party who proves to be in default, in addition to the cost of survey	39 0
(ii) Affixing the consular seal or signature to any entry in the official log-book of a ship if such entry is not required by the Merchant Shipping Acts	15 60

Note.—Consular Fee Stamps to the value of the Fees charged must be affixed to this Form, and cancelled, Stamps must on no account be removed.

LOAD LINE, DEPTH OF LOADING, Etc.

POSITIONS OF THE DECK LINE AND LOAD LINES

Freeboard from Deck Line		Load Lines
Tropical..... feet	.....inches.	(T) inches above S.
Summer..... feet	.....inches.	(S) Upper edge of line through centre of disc.
Winter feet	..... inches.	(W) .....inches below S.
Winter North Atlantic(if assigned) feet	..... inches.	(WNA) .....inches below S.
Allowance for fresh water for all freeboards :—	..... inches	
The upper edge of the deck line from which these freeboards are measured is inches above the top of the deck at side.		
(Above particulars to be taken from Load Line Certificate.)		
Maximum draught of water in summer	..... feet	..... inches.
(The maximum draught of water in summer is the draught of water which would be shown on the scale of feet on the stem and stern post of ship if she were so loaded that the upper edge of the summer load line were on the surface of the water and the ship were upright on an even keel.)		

NOTES

- The above particulars, and particulars of depth of loading as detailed on the following pages, are to be recorded before the ship leaves any dock, wharf, harbour, or other place for the purpose of proceeding to sea.
- The actual freeboard amidships on each side of the ship is to be measured from the upper edge of the deck line to the surface of the water, when the ship is loaded and ready to leave. The actual 'mean' freeboard is the mean of the actual freeboards, port and starboard, measured as indicated above.
- No entries are required in columns 814 when the actual mean freeboard (Column 7) is not less than the appropriate salt water freeboard.
- If, in determining density of water use is made of a hydrometer on which the reading at the top of the scale is 1.000 or 00 meaning 'full fresh water', the hydrometer reading gives the density to be entered, e.g., a reading of 15 on such hydrometers means a density of 1015. If the hydrometer used has the scale reversed, i.e. if the reading 00 is at the bottom of the scale and means 'full salt water', the density must be obtained by subtracting the hydrometer reading from 1025, e.g., if the reading is at 15, the density to be entered will be 1010.
- The Winter North Atlantic load line, if assigned, applies for voyages across the North Atlantic, North of latitude 36° N during the winter months as defined in the Load Line Rules, 1941, and shown on the chart which forms part of these Rules.
The periods during which the other seasonal load lines apply in different parts of the world are as indicated in the said Rules and chart.
- Penalty.—Failure to enter the required particulars of load line, depth of loading, etc., in the Official Log-Book at the proper time renders the Master or Owner liable to a fine.

ANNEX – III (Sri Lankan Certificate of registry)

CALL SIGN: [REDACTED]
IMO NO: [REDACTED]



**CERTIFICATE OF SRI LANKA REGISTRY
PARTICULARS OF SHIP**

Official Number [REDACTED]	Name of Ship " [REDACTED] " (EX: [REDACTED])	No., Year and Port of Registry No. 02 Of 2015, COLOMBO		No., Year and Port of previous Registry (if any) REPUBLIC OF PANAMA			
Whether a sailing, Steam or Motor Ship; if Steam or Motor, how propelled <i>MOTOR</i>		Where Built <i>JAPAN</i>	When Built <i>1998</i>	Name and Address of Builders <i>SHIN KURUSHIMA JAPAN.</i>			
Number of Decks ONE Number of Masts Rigged..... Stern..... Build..... Framework and description of vessel STEEL Number for bulkheads		Length Article 2(8) ITC 1969 Main Breath Reg 2(3) ...ITC 1969..... Depth Regulation 2(2) ...ITC 1969..... Length of engine-room (if any).....		METER	cm		
				107	02		
				19	40		
				10	40		
PARTICULARS OF PROPELLING ENGINES, &C, (IF ANY), as supplied by Builders Owners, or Engine Makers.							
No. sets of Engines	Descriptions of Engines	When made	Name and Address of Makers	Reciprocating Engines		Rotary Engines	B.H.P. Estimated Speed of Ship
				No. of cylinders in each set	Diameter of cylinders		
<i>ONE</i>	MOTOR DIESEL	Engine	Engine MAKITA B&W 6L35MC Japan. Boilers	<i>SIX (06)</i>	--	--	3883 KW
No. of Shafts	Particulars of Boilers Description	Boilers		Length of Stroke			13.6 KNOTS
--	-- Loaded pressure	--		--			
PARTICULARS OF TONNAGE							
GROSS TONNAGE.....		6,079	tons (.....cubic meters)				
NET TONNAGE.....		3,290	tons (.....cubic meters)				
THE SHIP HAS BEEN BAREBOAT CHARTERED BY [REDACTED] COLOMBO 01, SRI LANKA AS PER THE CHARTER PARTY AGREEMENT DATED 20TH MAY 2015 , SIGNED BY THE OWNERS AND THE CHARTERERS							
The number of seamen and apprentices for whom accommodation is certified.....							
I the undersigned, Registrar of Sri Lanka ships at the Port of... COLOMBO .....hereby certify that the Ship, the Description of which is prefixed to this my Certificate, has been duly surveyed, and that the above Description is in accordance with the Register Book; that [REDACTED] whose CoC No. [REDACTED] is the Master of the said Ship; and that Name , Residence and Description of the Owner and Number of Sixty-four Shares held by, are as follows:-							
Name, Residence, and Occupation of the Owner						Number of Sixty-four Shares	
Owner [REDACTED]		Charterer [REDACTED]		64 SHARES			
Dated at... <i>Colombo</i> ...the 24th day of July Two thousand Fifteen							
This certificate is valid until 30.06.2017						.....Registrar of Sri Lanka Ships	
NOTICE:- A certificate of Registry is not a document of Title. It does not necessarily contain notice of all changes of ownerships, and in no case does not it contain an official record of any mortgages affecting the ship. In case of any change of ownership it is important for the protection of the interests of all parties that the change should be registered according to law. <u>Changes of ownership, address or other registered particulars should be notified to the Registrar at the Port of Registry.</u> Should the vessel be lost, sold to Foreigners, or broken up, notice thereof, together with the Certificate of Registry, if n existence, should immediately be given to the Registrar of Sri Lanka Ships at the Port of Registry.							

“Twenty years from now, you will be more disappointed by the things you didn’t do than by the ones you did. So, throw off the bowlines, sail away from safe harbor, catch the trade winds in your sails. Explore. Dream. Discover.”

– Mark Twain

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