

VIQ	Question and Guidance – Existing Text	Amended Text
<b>Chapter 3</b>		
3.4	<p><b>Has the Master attended a ship handling course where applicable?</b></p> <p><i>The STCW Code Part B Section B-V/a refers.</i></p> <p><i>Note: The IMO Model course 1.22 – Ship Simulator and Bridge Teamwork may be of assistance in the preparation of courses. A Master with less than three years sea time in rank, or who has practical experience of less than thirty port entry/departures as Master, must have attended a ship handling course or have sufficient practical experience. Practical experience may include training at chief officer rank under a Masters' supervision, provided this is properly documented. In the event that the master has in excess of ten years' experience, this question should be answered NA.</i></p>	<p><b>Has the Master attended a ship handling course where applicable?</b></p> <p><i>The STCW Code Part B Section B-V/a refers.</i></p> <p><i>Note: The IMO Model course 1.22 – Ship Simulator and Bridge Teamwork may be of assistance in the preparation of courses. A Master with less than three years sea time in rank, or who has practical experience of less than thirty port entry/departures as Master, must have attended a ship handling course or have sufficient practical experience. Practical experience may include training at chief officer rank under a Masters' supervision, provided this is properly documented. In the event that the master has in excess of ten years' experience, this question should be answered NA.</i></p>
3.8	<p><b>Does the operator have measures in place to prevent Drug and Alcohol abuse in accordance with OCIMF guidance?</b></p> <p><i>As a general rule the frequency of onboard unannounced testing shall be less than the shortest contract period on board to act as an effective deterrent. However, consideration shall be given where the staff are on short back to back contracts of less than 6 weeks duration whereby testing shall be sufficient frequency to catch each crew on alternative tours of duty. Unannounced alcohol tests should be initiated by the Company rather than the master of the vessel unless there is an alternative means to ensure that the master is tested on an unannounced basis.</i></p>	<p><b>Does the operator have measures in place to prevent Drug and Alcohol abuse in accordance with OCIMF guidance?</b></p> <p><i>It is recommended that seafarers be subject to testing and screening for drugs and alcohol abuse by means of a combined programme of un-announced testing and routine medical examination.</i></p> <p><i>The frequency of unannounced testing should be sufficient so as to serve as an effective deterrent to abuse. (OCIMF Guidelines for the control of drugs and alcohol)</i></p> <p><i>As a general rule, the frequency of onboard unannounced testing onboard shall be less than the shortest contract period on board to act as an effective deterrent. However, consideration shall be given where the staff are on short back to back contracts of less than 6 weeks duration whereby testing shall be sufficient frequency done so that to catch each crew is tested on alternative tours of duty.</i></p> <p><i>Unannounced testing can be either tests for alcohol conducted onboard <u>or</u> tests for both, drug and alcohol undertaken by an independent agency.</i></p> <p><i>Unannounced alcohol tests <u>conducted on-board</u> should be initiated by the Company rather than the master of the vessel unless there is an alternative means to ensure that the master is tested on an unannounced basis.</i></p> <p><i>Record in comments, the date of the last drug and alcohol test that was carried out on board either by an independent agency or under controlled conditions by ship's personnel with specimens being forwarded to an independent agency.</i></p> <p><i>Record in comments the date of the last unannounced alcohol test conducted on-board.</i></p>

4.2

**Is the vessel maintaining an adequate record of all navigational activities, both at sea and during pilotage?**

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

*Information which should be recorded includes that concerning position, course and speed, the times and positions when passing waypoints, land or sea marks, weather and sea conditions and incidents and events including pilot embarkation/disembarkation, times of attendance and connection and disconnection of tugs, times of berthing and un-berthing, hazardous occurrences and accidents.*

*Effectiveness of the radar(s) as measured by the performance monitor(s) should be recorded by the OOW at the end of each watch whenever the radar(s) are operational to ensure that optimal efficiency is being maintained. A numeric, percentage, graphical, or other measurement value should be recorded.*

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

*Log books and engine movement (bell) books should be checked to ensure that they are up to date with entries properly made in ink and not in pencil. Empty lines are not allowed, and any correction should be such that the original entry is readable.*

*An electronic chart display and information system (ECDIS) with GPS input (provided the equipment is in good order and the datum used in each case is the same) provides a good record of the navigational activities. Where controllable pitch propellers are fitted, the times of significant changes of pitch should be recorded if this information is not automatically logged.*

*Software systems Meeting requirements of IMO, Marpol, SOLAS and flag states maybe an acceptable means of logbook entries replacing many of the traditional paper logs.*

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*Unless otherwise specified by the manufacturer, to ensure that optimal efficiency is being maintained, the effectiveness of the radar(s) as measured by the performance monitor(s) should be recorded by the OOW at the end of each watch. A numeric, percentage, graphical, or other measurement value should be recorded.*

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Chapter 5

5.2

**Is there evidence of a permit to work system in place for hazardous activities, are the crew aware of these requirements and is there documented evidence of compliance?**

*The safety management system for individual ships will determine when permit to work systems should be used, and the form of the permit to work. (COSWP 14.2.3)*

*Permits to work would normally be required for the following categories of work:*

- entry into dangerous (enclosed) space;
- gas testing/equipment;
- hot work;
- working at height/over the side;
- general electrical (under 1000 volts);
- electrical high voltage (over 1000 volts);
- working on deck during adverse weather; and
- lifts, lift trunks and machinery.

*This list is not exhaustive. Permits to work, following a similar format, may be required and developed for other categories of work. (COSWP Annex 14.1)*

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*The safety management system for individual ships will determine when permit to work systems should be used, and the form of the permit to work. (COSWP 14.2.3)*

**Ships officers and crew should be familiar with the implementation of the permit to work system as per the safety management system.**

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5.26	<p><b>Is gas welding and burning equipment in good order and spare oxygen and acetylene cylinders stored apart in a well-ventilated location outside of the accommodation and engine room?</b></p> <p><i>Piping should be of steel welded construction and bolted flanges are prohibited. Copper, rubber or braided lines should not be used, except that braided lines may be used for the short length from the cylinder heads to the manifolds within the storage space. Pipework and fittings should be free of grease. Pipe joints on the low-pressure side of the regulators shall be welded. (46 CFR 56.50-103)</i></p> <p><i>Note. In open air locations it may be acceptable for a short length of piping from the bottle to an isolation valve to be flanged. This is the only exception however. Flashback arrestors should be fitted at both the cylinders and workstation as recommended by the USA Operational Safety and Health Admin (OSHA), the UK Health and Safety Executive and other national safety authorities where long lengths of piping between the cylinders and the blowtorch are involved. Regulators should be inspected annually and replaced or refurbished on a 5-year basis. (British Compressed Gases Association Code of Practice CP7) Oxygen will not burn or explode, it only supports combustion; however, a small amount of excess oxygen will allow materials which are not normally combustible to burn with ferocity. Industrial oxygen cylinders are painted blue. Acetylene is 92.3% carbon and 7.7% hydrogen, is lighter than air and is highly flammable with a LEL of 2.5%. Acetylene cylinders are painted maroon. Oxygen and Acetylene should be kept in separate compartments except in the case of the cylinders that are in use, which may be stored in the same compartment. Cylinders should be stowed away from heat sources and should not be in heavy traffic areas to prevent accidental knocking over or damage from passing or falling objects. Valve caps should remain on cylinders not connected for use. Full and empty cylinders should be segregated. Cylinders should be stored with the valve end up. Storage areas should be free of combustible material and not exposed to salt or other corrosive chemicals. The use of propane in gas burning and welding systems is prohibited.</i></p>	<p><b>Is gas welding and burning equipment in good order and spare oxygen and acetylene cylinders stored apart in a well-ventilated location outside of the accommodation and engine room?</b></p> <p><i>Piping should be of steel welded construction and bolted flanges are prohibited. Copper, rubber or braided lines should not be used, except that braided lines may be used for the short length from the cylinder heads to the manifolds within the storage space. Pipework and fittings should be free of grease. Pipe joints on the low-pressure side of the regulators shall be welded. (46 CFR 56.50-103)</i></p> <p><i>Note. In open air locations it may be acceptable for a short length of piping from the bottle to an isolation valve to be flanged. This is the only exception however. Flashback arrestors should be fitted at both the cylinders and workstation as recommended by the USA Operational Safety and Health Admin (OSHA), the UK Health and Safety Executive and other national safety authorities where long lengths of piping between the cylinders and the blowtorch are involved. Regulators should be inspected annually and replaced or refurbished on a 5-year basis <b>or as per manufacturer's instructions.</b> (British Compressed Gases Association Code of Practice CP7) Oxygen will not burn or explode, it only supports combustion; however, a small amount of excess oxygen will allow materials which are not normally combustible to burn with ferocity. Industrial oxygen cylinders are painted blue. Acetylene is 92.3% carbon and 7.7% hydrogen, is lighter than air and is highly flammable with a LEL of 2.5%. Acetylene cylinders are painted maroon. Oxygen and Acetylene should be kept in separate compartments except in the case of the cylinders that are in use, which may be stored in the same compartment. Cylinders should be stowed away from heat sources and should not be in heavy traffic areas to prevent accidental knocking over or damage from passing or falling objects. Valve caps should remain on cylinders not connected for use. Full and empty cylinders should be segregated. Cylinders should be stored with the valve end up. Storage areas should be free of combustible material and not exposed to salt or other corrosive chemicals. The use of propane in gas burning and welding systems is prohibited.</i></p>
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<p>5.30</p>	<p><b>Is the rescue boat, including its equipment and launching arrangement, in good order and officers' familiar with the launch procedures?</b></p> <p><i>Cargo ships shall carry at least one rescue boat. A lifeboat may be accepted as a rescue boat, provided that it also complies with the requirements for a rescue boat. (SOLAS III/31.2) Rescue boats shall be stowed in a state of continuous readiness for launching in not more than 5 minutes. (SOLAS III/14.1) Rescue boat equipment is detailed in the LSA Code V/5.1.2.2, 3 and 4. With respect to launching equipment, rescue boats should comply with the requirements of the LSA Code 4.4.7.6 (by LSA Code 5.1.1.1) and either have two release capabilities, one off-load and one on-load, or only one if the rescue boat can only be released when waterborne. The on-load release shall be: - Protected against accidental or premature use;</i></p> <ul style="list-style-type: none"> <li>- To prevent a premature on-load release, on-load operation of the release mechanism should require a sustained and deliberate action by the operator;</li> <li>- To prevent an accidental release the mechanical protection (interlock) should only engage when the release mechanism is properly and completely set;</li> <li>- The release mechanism shall be so designed that crew members in the lifeboat can clearly observe when the release mechanism is properly and completely reset;</li> <li>- Clear operating instructions should be provided with a suitable worded warning notice;</li> <li>- Where a single fall or hook system is used for launching, the above requirements need not apply and a single capability to release the rescue boat only when it is waterborne will be adequate.</li> </ul> <p><i>Propeller guard. Each propeller on a lifeboat must be fitted with a propeller guard with a maximum opening of 76 mm (3 in) on all sides on which a person is likely to be exposed. (46 CFR 160.135.7(10))</i></p>	<p><b>Is the rescue boat, including its equipment and launching arrangement, in good order and officers' familiar with the launch procedures?</b></p> <p><i>Cargo ships shall carry at least one rescue boat. A lifeboat may be accepted as a rescue boat, provided that it also complies with the requirements for a rescue boat. (SOLAS III/31.2) Rescue boats shall be stowed in a state of continuous readiness for launching in not more than 5 minutes. (SOLAS III/14.1) Rescue boat equipment is detailed in the LSA Code V/5.1.2.2, 3 and 4. With respect to launching equipment, rescue boats should comply with the requirements of the LSA Code 4.4.7.6 (by LSA Code 5.1.1.1) and either have two release capabilities, one off-load and one on-load, or only one if the rescue boat can only be released when waterborne. The on-load release shall be: - Protected against accidental or premature use;</i></p> <ul style="list-style-type: none"> <li>- To prevent a premature on-load release, on-load operation of the release mechanism should require a sustained and deliberate action by the operator;</li> <li>- To prevent an accidental release the mechanical protection (interlock) should only engage when the release mechanism is properly and completely set;</li> <li>- The release mechanism shall be so designed that crew members in the lifeboat can clearly observe when the release mechanism is properly and completely reset;</li> <li>- Clear operating instructions should be provided with a suitable worded warning notice;</li> <li>- Where a single fall or hook system is used for launching, the above requirements need not apply and a single capability to release the rescue boat only when it is waterborne will be adequate.</li> </ul> <p><i>Propeller guard. Each propeller on a lifeboat must be fitted with a propeller guard with a maximum opening of 76 mm (3 in) on all sides on which a person is likely to be exposed. (46 CFR 160.135.7(10))</i></p>
<p>5.37</p>	<p><b>Are the crew aware of the location and use of the International Shore Connection, is it readily available externally, is a fire control plan exhibited within the accommodation, also a copy available externally and equipment correctly marked on the plan?</b></p> <p><i>The connection shall be of steel or other suitable material. The connection shall be kept aboard the ship together with a gasket of any material suitable, with four 16 mm bolts, 50 mm in length and eight washers. (FSS Code 2.2) If fixed on a ship, the connection should be accessible from both sides of the ship and its location should be clearly marked. The shore connection should be ready for use whenever a ship is in port. (ISGOTT 26.5.3)</i></p> <p><i>The requirements for fire plans are contained in SOLAS II-2/15.2.4. IMO Resolution A.654(16) recommends the symbols to be used on fire control plans.</i></p>	<p><b>Are the crew aware of the location and use of the International Shore Connection, is it readily available externally, is a fire control plan exhibited within the accommodation, also a copy available externally and equipment correctly marked on the plan?</b></p> <p><i>The connection shall be of steel or other suitable material. The connection shall be kept aboard the ship together with a gasket of any material suitable, with four 16 mm bolts, 50 mm in length and eight washers. (FSS Code 2.2)</i></p> <p><i>If fixed on a ship, the connection should be accessible from both sides of the ship and its location should be clearly marked. The shore connection should be ready for use whenever a ship is in port. (ISGOTT 26.5.3)</i></p> <p><i>The requirements for fire plans are contained in SOLAS II-2/15.2.4. IMO Resolution A.654(16) A.952(23) recommends the symbols to be used on fire control plans.</i></p> <p><i>Ships constructed before 1 January 2004 may continue to carry fire control plans that use the graphical symbols contained in resolution A.654(16)</i></p>

<p>5.48</p>	<p><b>Is there a suitable means for storing of cargo and bunker samples cargo and bunker sample locker situated within the main cargo area and is it in good order?</b></p> <p><i>All cargo samples should be stowed securely in lockers that have access external to the accommodation. Consideration should be given to storing samples in a location protected by a fixed fire-fighting system, such as a paint locker. The number of samples retained on board should be carefully managed and, when no longer required, they should be disposed of either to a slop tank on board or to a terminal's waste oil system.</i></p> <p><i>The company should have a policy that addresses the disposal of samples; the aim should be to minimise the period of retention after the relevant cargo has been discharged. Unless the company advises to the contrary, it is suggested that samples are retained for a period of three months after the cargo has been discharged. (ISGOTT 12.3)</i></p> <p><i>The retained bunker sample should be kept in a safe storage location, outside the ship's accommodation, where personnel would not be exposed to vapours which may be released from the sample. Care should be exercised when entering a sample storage location.</i></p> <p><i>The retained sample should be stored in a sheltered location where it will not be subject to elevated temperatures, preferably at a cool/ambient temperature, and where it will not be exposed to direct sunlight.</i></p> <p><i>Pursuant to regulation 18(6) of Annex VI of MARPOL 73/78, the retained sample should be retained under the ship's control until the fuel oil is substantially consumed, but in any case, for a period of not less than 12 months from the time of delivery. (MEPC.96(47))</i></p>	<p><b>Is there a suitable means for storing of cargo and bunker samples cargo and bunker sample locker situated within the main cargo area and is it in good order?</b></p> <p><i>All cargo samples should be stowed securely in lockers that have access external to the accommodation. Consideration should be given to storing samples in a location protected by a fixed fire-fighting system, such as a paint locker. The number of samples retained on board should be carefully managed and, when no longer required, they should be disposed of either to a slop tank on board or to a terminal's waste oil system. (ISGOTT 12.3)</i></p> <p><i>The company should have a policy that addresses the disposal of samples; the aim should be to minimise the period of retention after the relevant cargo has been discharged. Unless the company advises to the contrary, it is suggested that samples are retained for a period of three months after the cargo has been discharged. (ISGOTT 12.3)</i></p> <p><i>The retained bunker sample should be kept in a safe storage location, outside the ship's accommodation, where personnel would not be exposed to vapours which may be released from the sample. Care should be exercised when entering a sample storage location. (MEPC.96(47))</i></p> <p><i>The retained sample should be stored in a sheltered location where it will not be subject to elevated temperatures, preferably at a cool/ambient temperature, and where it will not be exposed to direct sunlight. (MEPC.96(47))</i></p> <p><i>Pursuant to regulation 18(6) of Annex VI of MARPOL 73/78, the retained sample should be retained under the ship's control until the fuel oil is substantially consumed, but in any case, for a period of not less than 12 months from the time of delivery. (MEPC.96(47))</i></p>
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**Chapter 7**

<p>7.17</p>	<p><b>Is Cyber Security awareness actively promoted by the company and onboard?</b></p> <p><i>Note: Active promotion might include:</i></p> <ul style="list-style-type: none"> <li>• 'Cyber Awareness Material' displayed by all IT terminals and in crew rest rooms</li> <li>• Training films shown to crew</li> <li>• Crew specific training</li> <li>• Instruction on safeguarding of passwords</li> <li>• Responsible use of social media</li> <li>• Policy on the use of personal devices and its inclusion in shipboard joining familiarisation checklists.</li> <li>• May include companies own employee/contractor Authorised User Policy (AUP) agreements.</li> <li>• Company certified as per ISO 27001</li> </ul>	<p><b>Is Cyber Security awareness actively promoted by the company and onboard?</b></p> <p><i>Note: Examples of a Active promotion might include:</i></p> <ul style="list-style-type: none"> <li>• 'Cyber Awareness Material' displayed by all IT terminals and in crew rest rooms</li> <li>• Training films shown to crew</li> <li>• Crew specific training</li> <li>• Instruction on safeguarding of passwords</li> <li>• Responsible use of social media.</li> <li>• Policy on the use of personal devices and its inclusion in shipboard joining familiarisation checklists.</li> <li>• May include companies own employee/contractor Authorised User Policy (AUP) agreements.</li> <li>• Company certified as per ISO 27001</li> </ul>
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**Chapter 8**

<p>8.8 Chem</p>	<p><b>Has a cargo plan been prepared and followed with a detailed sequence of cargo and ballast transfers documented, stress, intact and damage stability and are any limitations, where applicable understood by the cargo watch officers, clearly documented and signed?</b></p> <p><i>Inspectors should determine that prior to transfer of cargo, calculations have been made for stress and stability conditions for the start, interim and completion of transfer conditions. Regular monitoring of stress and stability should be taking place throughout cargo transfer to ensure that the conditions have been maintained within design limits.</i></p> <p><i>All cargo operations should be carefully planned and documented well in advance of their execution. The details of the plans should be discussed with all personnel, both on the ship and at the terminal. Plans may need to be modified following consultation with the terminal and following changing circumstances, either onboard or ashore. Any changes should be formally recorded and brought to the attention of all personnel involved with the operation. ISGOTT Chapter 22 contains details of cargo plans and communications regarding them. (ISGOTT 11.1.1)</i></p> <p><i>The plan should cover all stages of the transfer operations and as a minimum, contain:</i></p> <ul style="list-style-type: none"> <li>- Quantity and grade of each parcel;</li> <li>- Density, temperature and other relevant properties;</li> <li>- A plan of the distribution, lines and pumps to be used;</li> <li>- Transfer rates and maximum allowable pressures;</li> <li>- Critical stages of the operation;</li> <li>- Notice of rate change;</li> <li>- Venting requirements;</li> <li>- Stability and stress information;</li> <li>- Drafts and trims;</li> <li>- Ballast operations;</li> <li>- Emergency stop procedures;</li> <li>- Emergency spill procedures and spill containment; and</li> <li>- Hazards of the particular cargoes.</li> </ul> <p><i>And also, as required:</i></p> <ul style="list-style-type: none"> <li>- Precautions against static generation;</li> <li>- Initial start-up rates;</li> <li>- Control of cargo heating systems;</li> <li>- Line clearing;</li> <li>- Crude oil washing procedures;</li> <li>- Under keel clearance limitations;</li> <li>- Bunkering; and</li> <li>- Special precautions required for the particular operation</li> <li>- Inert gas operations.</li> </ul> <p><i>The cargo plan should be completed by the responsible officer prior to commencement of operations and verified and approved by the Master. It should be comprehensive, contain full details of the operation and be easy to interpret. Vessel should be able to demonstrate that an independent check of the cargo line up including venting was carried out prior the start of the cargo operation.</i></p>	<p><b>Has a cargo plan been prepared and followed with a detailed sequence of cargo and ballast transfers documented, stress, intact and damage stability and are any limitations, where applicable understood by the cargo watch officers, clearly documented and signed?</b></p> <p><i>Inspectors should determine that prior to transfer of cargo, calculations have been made for stress and stability conditions for the start, interim and completion of transfer conditions. 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	<p>The cargo log must include details of all major events including starting and stopping of main cargo and ballast pumps, tanks being worked and any deviations from the original plan.</p> <p>The master and chief officer should be aware of the worst case damage condition for the existing cargo onboard.</p> <p>Every oil tanker of 5,000 tonnes deadweight or more shall have prompt access to computerised shore-based damage stability and residual structural strength calculation programs. (MARPOL Annex I reg 37.4)</p> <p>The vessel should have an approved stability information book (SIB), written in a language understood by the officers on board, and the SIB should cover damage conditions.</p> <p>A sailing condition is deemed to be approved if the filling of each cargo and ballast tank lies within 1% of the weight in the approved condition and GMF lies within 2 cm of the approved condition GMF.</p> <p>Record an observation if the vessel has ever been loaded to a condition not in accordance with the SIB unless these are in accordance with the damage conditions as per the class approved on board stability computer programme.</p>	<p>The cargo log must include details of all major events including starting and stopping of main cargo and ballast pumps, tanks being worked and any deviations from the original plan.</p> <p>The master and chief officer should be aware of the worst case damage condition for the existing cargo onboard.</p> <p><del>Every oil tanker of 5,000 tonnes deadweight or more shall have prompt access to computerised shore-based damage stability and residual structural strength calculation programs. (MARPOL Annex I reg 37.4)</del></p> <p>The vessel should have an approved stability information book (SIB), written in a language understood by the officers on board, and the SIB should cover damage conditions.</p> <p><del>A sailing condition is deemed to be approved if the filling of each cargo and ballast tank lies within 1% of the weight in the approved condition and GMF lies within 2 cm of the approved condition GMF.</del></p> <p>Record an observation if the vessel has ever been loaded to a condition not in accordance with the SIB unless these are in accordance with the damage conditions as per the class approved on board stability computer programme.</p>
<p>8.30 OIL</p>	<p><b>Are officers and ratings aware of safe entry requirements for the inert gas room(s), are these procedures being followed and where applicable, is fixed oxygen detection provided?</b></p> <p>Vessels delivered on, or after 01 Jan 2016, two oxygen sensors shall be positioned at appropriate locations in the space or spaces containing the inert gas system. If the oxygen level falls below 19%, these sensors shall trigger alarms, which shall be both visible and audible inside and outside the space or spaces and shall be placed in such a position that they are immediately received by responsible members of the crew. (FSS Ch 15 2.2.4.5.4)</p> <p>Where a separate compartment is provided for the nitrogen generator, the compartment shall be fitted with an independent mechanical extraction ventilation system providing six air changes per hour. (FSS Ch 15 2.4.1.3) Where a nitrogen receiver or a buffer tank is installed, it may be installed in a dedicated compartment, in a separate compartment containing the air compressor and the generator, in the engine room, or in the cargo area. Where the nitrogen receiver or a buffer tank is installed in an enclosed space, the access shall be arranged only from the open deck and the access door shall open outwards. Adequate, independent mechanical ventilation, of the extraction type, shall be provided for such a compartment. (FSS Ch 15 2.4.1.4)</p> <p>Spaces containing nitrogen systems shall be clearly marked with hazard notices warning of the dangers of asphyxiation.</p>	<p><b>Are officers and ratings aware of safe entry requirements for the inert gas room(s), are these procedures being followed and where applicable, is fixed oxygen detection provided?</b></p> <p>Vessels delivered on, or after 01 Jan 2016, two <b>For vessels constructed on or after 01 Jan 2016, two</b> oxygen sensors shall be positioned at appropriate locations in the space or spaces containing the inert gas system. If the oxygen level falls below 19%, these sensors shall trigger alarms, which shall be both visible and audible inside and outside the space or spaces and shall be placed in such a position that they are immediately received by responsible members of the crew. (FSS Ch 15 2.2.4.5.4)</p> <p>Where a separate compartment is provided for the nitrogen generator, the compartment shall be fitted with an independent mechanical extraction ventilation system providing six air changes per hour. (FSS Ch 15 2.4.1.3)</p> <p>Where a nitrogen receiver or a buffer tank is installed, it may be installed in a dedicated compartment, in a separate compartment containing the air compressor and the generator, in the engine room, or in the cargo area. Where the nitrogen receiver or a buffer tank is installed in an enclosed space, the access shall be arranged only from the open deck and the access door shall open outwards. Adequate, independent mechanical ventilation, of the extraction type, shall be provided for such a compartment. (FSS Ch 15 2.4.1.4)</p> <p>Spaces containing nitrogen systems shall be clearly marked with hazard notices warning of the dangers of asphyxiation.</p>

<p>8.78 LNG</p>	<p><b>Are the officers and crew familiar with the requirements and risks during ship to ship operations?</b></p> <p><i>Any oil tanker over 150 GT involved in STS operations shall carry on board a Plan prescribing how to conduct STS operations (STS Operations Plan) and shall be approved by the administration. The STS operations plan shall be written in the working language of the ship. (MARPOL Annex I Reg 41.1)</i></p> <p><i>Notes: STS operations plan are not required for liftings from FPSOs, FSOs nor for bunkering operations. (See MARPOL Annex I, Reg 40 for full details) Operations plan shall be developed taking into account the information contained in IMO's "Manual on Oil Pollution, Section 1, Prevention and the ICS/OCIMF/SIGTTO/CDI "Ship to Ship Transfer Guide, for Petroleum, Chemicals and Liquefied Gases" First Edition 2013.</i></p> <p><i>A risk assessment should be undertaken when considering the suitability of an STS transfer location. A further risk assessment should be made for the STS operation. (STS Guide 1.4)</i></p> <p><i>All STS transfer operations should be conducted under the co-ordination and advisory control of one individual, who will either be one of the Masters concerned, an STS Superintendent or the POAC. To prevent fatigue during extended operations, the role may be formally transferred to another suitably qualified person (STS Guide 1.5.1).</i></p> <p><i>In case the vessel is equipped with permanent fenders and hoses, there shall be procedures in place to monitor and assess the condition of such equipment in accordance with manufacturer guidelines.</i></p>	<p><b>Are the officers and crew familiar with the requirements and risks during ship to ship operations?</b></p> <p><i>Any oil tanker over 150 GT involved in STS operations shall carry on board a Plan prescribing how to conduct STS operations (STS Operations Plan) and shall be approved by the administration. The STS operations plan shall be written in the working language of the ship. (MARPOL Annex I Reg 41.1)</i></p> <p><i>Notes: STS operations plan are not required for liftings from FPSOs, FSOs nor for bunkering operations. (See MARPOL Annex I, Reg 40 for full details) Operations plan shall be developed taking into account the information contained in IMO's "Manual on Oil Pollution, Section 1, Prevention and the ICS/OCIMF/SIGTTO/CDI "Ship to Ship Transfer Guide, for Petroleum, Chemicals and Liquefied Gases" First Edition 2013.</i></p> <p><i>A risk assessment should be undertaken when considering the suitability of an STS transfer location. A further risk assessment should be made for the STS operation. (STS Guide 1.4)</i></p> <p><i>All STS transfer operations should be conducted under the co-ordination and advisory control of one individual, who will either be one of the Masters concerned, an STS Superintendent or the POAC. To prevent fatigue during extended operations, the role may be formally transferred to another suitably qualified person (STS Guide 1.5.1).</i></p> <p><i>In case the vessel is equipped with permanent fenders and hoses, there shall be procedures in place to monitor and assess the condition of such equipment in accordance with manufacturer guidelines.</i></p>
<p>8.38 Chem</p>	<p><b>Are officers and ratings aware of safe entry requirements for the inert gas room(s), are these procedures being followed and where applicable, is fixed oxygen detection provided?</b></p> <p><i>Vessels delivered on, or after 01 Jan 2016, two oxygen sensors shall be positioned at appropriate locations in the space or spaces containing the inert gas system. If the oxygen level falls below 19%, these sensors shall trigger alarms, which shall be both visible and audible inside and outside the space or spaces and shall be placed in such a position that they are immediately received by responsible members of the crew. (FSS Ch 15 2.2.4.5.4)</i></p> <p><i>Where a separate compartment is provided for the nitrogen generator, the compartment shall be fitted with an independent mechanical extraction ventilation system providing six air changes per hour. (FSS Ch 15 2.4.1.3)</i></p> <p><i>Where a nitrogen receiver or a buffer tank is installed, it may be installed in a dedicated compartment, in a separate compartment containing the air compressor and the generator, in the engine room, or in the cargo area. Where the nitrogen receiver or a buffer tank is installed in an enclosed space, the access shall be arranged only from the open deck and the access door shall open outwards. Adequate, independent mechanical ventilation, of the extraction type, shall be provided for such a compartment. (FSS Ch 15 2.4.1.4)</i></p> <p><i>Spaces containing nitrogen systems shall be clearly marked with hazard notices warning of the dangers of asphyxiation.</i></p>	<p><b>Are officers and ratings aware of safe entry requirements for the inert gas room(s), are these procedures being followed and where applicable, is fixed oxygen detection provided?</b></p> <p><i>Vessels delivered on, or after 01 Jan 2016, two <b>For vessels constructed on or after 01 Jan 2016, two</b> oxygen sensors shall be positioned at appropriate locations in the space or spaces containing the inert gas system. If the oxygen level falls below 19%, these sensors shall trigger alarms, which shall be both visible and audible inside and outside the space or spaces and shall be placed in such a position that they are immediately received by responsible members of the crew. (FSS Ch 15 2.2.4.5.4)</i></p> <p><i>Where a separate compartment is provided for the nitrogen generator, the compartment shall be fitted with an independent mechanical extraction ventilation system providing six air changes per hour. (FSS Ch 15 2.4.1.3)</i></p> <p><i>Where a nitrogen receiver or a buffer tank is installed, it may be installed in a dedicated compartment, in a separate compartment containing the air compressor and the generator, in the engine room, or in the cargo area. Where the nitrogen receiver or a buffer tank is installed in an enclosed space, the access shall be arranged only from the open deck and the access door shall open outwards. Adequate, independent mechanical ventilation, of the extraction type, shall be provided for such a compartment. (FSS Ch 15 2.4.1.4)</i></p> <p><i>Spaces containing nitrogen systems shall be clearly marked with hazard notices warning of the dangers of asphyxiation.</i></p>

## Chapter 9

9.1	<p><b>Are certificates available for all mooring lines and wires?</b></p> <p><i>Product certificates for mooring lines, connecting shackles, and synthetic tails should be kept in a file clearly showing to which winch each particular component has been fitted. For ship's following guidance in MEG4, mooring line and tail certificates should follow the guidance for the purchasing and testing of mooring lines and tails as provided in Apopendix B of the Mooring Equipment Guidelines (MEG4)</i></p>	<p><b>Are certificates available for all mooring lines and wires?</b></p> <p><i>Product certificates for mooring lines, connecting shackles, and synthetic tails should be kept in a file clearly showing to which winch each particular component has been fitted. For ship's following guidance in MEG4, mooring line and tail certificates should follow the guidance for the purchasing purchasing and testing of mooring lines and tails as provided in Apopendix Appendix B of the Mooring Equipment Guidelines (MEG4)</i></p>
9.7	<p><b>Is there a policy in place for the testing of winch brakes and are the results recorded?</b></p> <p><i>The primary brake should be set to hold 60% of the mooring line's minimum breaking load. Since brakes may deteriorate in service, it is recommended that new equipment be designed to hold 80% of the line's minimum breaking load but have the capability to be adjusted down to 60%. (MEG 6.3.4)</i></p> <p><i>Regardless of the brake type, periodic testing is essential to ensure safe mooring (MEG 6.4.6)</i></p> <p><i>The main purpose of brake testing is to verify that the brake will render at a load less than the ship design MBL. New ships are normally supplied with a brake test kit of the simplified type. Each winch manufacturer will have their own test equipment and procedures which should be followed by the operator. (MEG 6.4.6)</i></p> <p><i>Each winch should be tested individually, and test should be carried out prior to the ship's delivery and then every year thereafter following recommendation in ISGOTT. In addition, individual winches should be tested after completion of any modification or repair involving the winch brakes, or upon any evidence of premature brake slippage or related malfunctions. Brakes should be tested to prove they render at a load that is equivalent to 60% of the line's MBL (MEG 6.4.6.1)</i></p> <p><i>It is recommended that a complete set of test equipment is placed on board each ship properly stowed in an appropriate location. Alternatively, the owner may elect to procure one or two sets of testing equipment for each type and size of winch and retain this equipment in a convenient central location for shipment to repair facilities (MEG 6.4.6.3)</i></p> <p><i>Ideally, a brake should hold and render within a very small range and once it renders, should shed only enough load to bring the line tension back to a safe level. Unfortunately, the widely used band brake with screw is only marginally satisfactory in fulfilling these requirements and its operation requires special care. (MEG 6.2.5)</i></p> <p><i>Specifications should be available on the winch drum to show the design holding capacity and the torque required on the hand wheel or lever to achieve this. (MEG 6.3.6)</i></p>	<p><b>Is there a policy in place for the testing of winch brakes and are the results recorded?</b></p> <p><i>The primary brake should be set to hold 60% of the ship design MBL on the first layer mooring line's minimum breaking load. Since brakes may deteriorate in service, it is recommended that new equipment be designed to hold 80% of the ship design MBL on the first layer line's minimum breaking load but have the capability to be adjusted down to 60%. (MEG 6.3.4)</i></p> <p><i>Regardless of the brake type, periodic testing is essential to ensure safe mooring (MEG 6.4.6)</i></p> <p><i>The main purpose of brake testing is to verify that the brake will render at a load less than the ship design MBL. New ships are normally supplied with a brake test kit of the simplified type. Each winch manufacturer will have their own test equipment and procedures which should be followed by the operator. (MEG 6.4.6)</i></p> <p><i>Each winch should be tested individually, and test should be carried out prior to the ship's delivery and then every year thereafter following recommendation in ISGOTT the MEG. In addition, individual winches should be tested after completion of any modification or repair involving the winch brakes, or upon any evidence of premature brake slippage or related malfunctions. Brakes should be tested to prove they render at a load that is equivalent to 60% of the ship design MBL line's MBL (MEG 6.4.6.1)</i></p> <p><i>It is recommended that a complete set of test equipment is placed on board each ship properly stowed in an appropriate location. Alternatively, the owner may elect to procure one or two sets of testing equipment for each type and size of winch and retain this equipment in a convenient central location for shipment to repair facilities (MEG 6.4.6.3)</i></p> <p><i>Ideally, a brake should hold and render within a very small range and once it renders, should shed only enough load to bring the line tension back to a safe level. Unfortunately, the widely used band brake with screw is only marginally satisfactory in fulfilling these requirements and its operation requires special care. (MEG 6.2.5)</i></p> <p><i>Specifications should be available on the winch drum to show the design holding capacity and the torque required on the hand wheel or lever to achieve this. (MEG 6.3.6)</i></p>

9.11	<p><b>On split drum winches are all the lines made fast with no more than one layer on each tension side of the drum?</b></p> <p><i>The rated holding capacity is only achieved with one layer of line on the tension section of the drum. Guidance on the minimum number of turns should be obtained from the line manufacturer and documented in the Line Management Plan. If guidance is not available, a minimum of eight turns should be used.</i></p> <p><i>Operation with additional layers will decrease the brake holding capacity (MEG 6.3.4.1 &amp; 6.4.5)</i></p>	<p><b>On split drum winches are all the lines made fast with no more than one layer on each tension side of the drum?</b></p> <p><i>The rated holding capacity is only achieved with one layer of line on the tension section of the drum. Guidance on the minimum number of turns should be obtained from the line manufacturer and documented in the Line Management Plan. If guidance is not available, a minimum of eight turns should be used.</i></p> <p><i>Operation with additional layers will decrease the brake holding capacity (MEG 6.3.4.1 &amp; 6.4.5)</i></p> <p><i>Split-drum winches should not have more than one layer of mooring line on the tensions section of the drum because it can reduce the brake holding capacity of the mooring winch. Winch brakes are designed to be set with one layer around the winch drum. Any further distance outward from the centre of the drum reduces the force necessary to render the winch brake. (MEG 6.3.4.1)</i></p> <p><i>Guidance on the minimum number of turns should be obtained from the line manufacturer and documented in the Line Management Plan.</i></p>
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9.25

**Is single point mooring (SPM) and associated equipment fitted to OCIMF recommendations?**

Existing ships delivered before 2009 likely to trade to SPM's should be equipped with bow chain stoppers designed to accept 76 mm chafe chain:

Up to 150,000 tdw:	1 stopper	200 tonnes swl
150 to 350,000 tdw:	2 stoppers	200 tonnes swl
Over 350,000 tdw:	2 stoppers	250 tonnes swl

New ships delivered during or after 2009 likely to visit SPMs should be equipped with bow chain stoppers designed to accept 76mm chafe chain in accordance with the following table. Owners of ships under construction before 2009 are encouraged to consider fitting bow chain stoppers in accordance with the recommendations for new ships.

Up to 100,000 tdw:	1 stopper	200 tonnes swl
100 to 150,000 tdw:	1 stoppers	250 tonnes swl
Over 150,000 tdw:	2 stoppers	350 tonnes swl

Stoppers should be located between 2.7 and 3.7 metres inboard from the bow fairlead (regardless of the size of vessel) and due consideration should be given to the correct alignment of stoppers relative to the lead between bow fairlead, stopper, pedestal fairlead and winch drum or the warping drum of the winch.

A bow fairlead should measure at least 600 by 450 mm and be placed on the centre line. If two fairleads are recommended these should be spaced 2 metres centre to centre apart, but in no case more than 3 metres. (MEG 4.3)

**Is single point mooring (SPM) and associated equipment fitted to OCIMF recommendations?**

Existing ships delivered before 2009 likely to trade to SPM's should be equipped with bow chain stoppers designed to accept 76 mm chafe chain:

Up to 150,000 tdw:	1 stopper	200 tonnes swl
150 to 350,000 tdw:	2 stoppers	200 tonnes swl
Over 350,000 tdw:	2 stoppers	250 tonnes swl

New ships delivered during or after 2009 likely to visit SPMs should be equipped with bow chain stoppers designed to accept 76mm chafe chain in accordance with the following table. Owners of ships under construction before 2009 are encouraged to consider fitting bow chain stoppers in accordance with the recommendations for new ships.

Up to 100,000 tdw:	1 stopper	200 tonnes swl
100 to 150,000 tdw:	1 stoppers	250 tonnes swl
Over 150,000 tdw:	2 stoppers	350 tonnes swl

Stoppers should be located between 2.7 and 3.7 metres inboard from the bow fairlead (regardless of the size of vessel) and due consideration should be given to the correct alignment of stoppers relative to the lead between bow fairlead, stopper, pedestal fairlead and winch drum or the warping drum of the winch.

A bow fairlead should measure at least 600 by 450 mm and be placed on the centre line. If two fairleads are recommended these should be spaced 2 metres centre to centre apart, but in no case more than 3 metres. (MEG 4.3)

Operators of conventional tankers that are expected to trade to F(P)SOs or SPM terminals are recommended to fit bow chain stoppers in accordance with table 4.1. in MEG4

Ship Size	Number of Bow Chain Stoppers	Minimum SWL (tonnes)
100,000 DWT or less (approx. 120,000 displacement) Note that ships in this size range may elect to fit two stoppers to ensure full range terminal acceptance.	1	200
Over 100,000 but not greater than 150,000 DWT (approx. 120,000-175,000 displacement) Note that ships in this size range may elect to fit two stoppers to ensure full range terminal acceptance.	1	250
Over 150,000 DWT (approx. 175,000 displacement)	2	350

Table 4.1: Bow chain stopper recommendations (DWT refers to maximum design deadweight)

The recommended minimum safety factor on the minimum yield load of bow chain stoppers on tankers is 2.0 SWL.

Conventional tankers that are expected to trade to F(P)SOs and SPM terminals should be equipped with bow chain stoppers designed to accept 76mm chafe chain. A typical design is shown in figure 4.8 in MEG4.

Bow chain stoppers, foundations and supporting structure should be adequate for the expected loads. The tanker should hold a copy of the manufacturer's type approval

		<p>certificate for the bow chain stoppers. The certificate should confirm that the bow chain stoppers</p> <p>are constructed in strict compliance with a recognised standard that specifies SWL, yield strength and safety factors. The tanker should also hold a certificate confirming the strength of the bow chain stopper foundations and supporting structure, substantiated by detailed engineering analysis or calculations and an inspection of the structure. An independent authority, such as a Classification Society, should issue both certificates. Bow chain stoppers, foundations and supporting structures should be kept in good order and surveyed at least once every five years. Bow chain stoppers should be permanently marked with the SWL and appropriate serial numbers so that certificates can be easily cross-referenced.</p> <p>Bow chain stopper manufacturers should provide basic operating, maintenance and inspection instructions which should be followed without modification, for example, wedges should not be used between the pin and tongue of bow chain stoppers. Where appropriate, manufacturers should also provide guidance on maximum component wear limits. (MEG 4.3.1)</p>
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<p>9.26</p>	<p><b>If the vessel is equipped for mooring at single point moorings, does it meet the recommendations as applicable, contained in Mooring Equipment Guidelines?</b></p> <p><i>Conventional tankers likely to visit F(P)SOs and SPM buoy terminals should be equipped so that winch storage drums used to recover the pick-up lines should be positioned in a direct straight lead with the bow fairlead and bow chain stopper without the use of pedestal rollers. This relative positioning of the tanker bow mooring equipment in a direct straight lead is a best practice and considered the safest and most efficient arrangement for handling the pick-up lines. There should be at least 3.0m distance between the bow chain stopper and the winch drum to allow for the pick-up line eye, connecting shackle, shipboard-end oblong plate and a number of chafe chain links.</i></p> <p><i>However, recognising that not all existing mooring arrangement designs will permit direct straight leads to a winch stowage drum, consideration of safety and protection of mooring personnel from risk of snap-back injury should take priority in determining the number and positioning of any pedestal rollers. However, only one pedestal roller should be used for each bow chain stopper, and in no circumstances, should the number exceed two. The angle of change of direction of the pick-up line lead should be minimal. Tankers may be rejected by some terminals if the angle of change of direction is large, such as an aggregate of all changes exceeding 90 degrees.</i></p> <p><i>If used, it is essential that pedestal roller(s) are correctly aligned with the winch storage drum and the centre of the bow chain stopper. This enables a direct lead from the centre of the bow fairlead to the centre of the bow chain stopper while allowing the pick-up line to be stowed evenly on the stowage drum. There should be at least three metres distance between the bow chain stopper and the closest pedestal roller to allow for the pick-up line eye, connecting shackle, shipboard-end oblong plate and a number of chafe chain links.</i></p> <p><i>There should be no obstructions or fittings (e.g. a hatch with securing dogs) close to the route of the pick-up line or chain to ensure that if the line is allowed to run free during letting go it is unlikely to snag on any such structure.</i></p> <p><i>On all conventional tankers, winch stowage drums used to stow the pick-up line should be capable of lifting at least 15 tonnes and be of sufficient size to accommodate 150m of 80mm diameter line. Using winch warping drums to handle pick-up lines is considered unsafe and should be avoided. Remotely operated winch stowage drums may give some additional snapback injury protection to the winch operator. (MEG 4.3.4)</i></p>	<p><b>If the vessel is equipped for mooring at single point moorings, does it meet the recommendations as applicable, contained in Mooring Equipment Guidelines?</b></p> <p><i>Conventional tankers likely to visit F(P)SOs and SPM buoy terminals should be equipped so that winch storage drums used to recover the pick-up lines should be positioned in a direct straight lead with the bow fairlead and bow chain stopper without the use of pedestal rollers. This relative positioning of the tanker bow mooring equipment in a direct straight lead is a best practice and considered the safest and most efficient arrangement for handling the pick-up lines. There should be at least 3.0m distance between the bow chain stopper and the winch drum to allow for the pick-up line eye, connecting shackle, shipboard-end oblong plate and a number of chafe chain links.</i></p> <p><i>However, recognising that not all existing mooring arrangement designs will permit direct straight leads to a winch stowage drum, consideration of safety and protection of mooring personnel from risk of snap-back injury should take priority in determining the number and positioning of any pedestal rollers. However, only one pedestal roller should be used for each bow chain stopper, and in no circumstances, should the number exceed two. The angle of change of direction of the pick-up line lead should be minimal. Tankers may be rejected by some terminals if the angle of change of direction is large, such as an aggregate of all changes exceeding 90 degrees.</i></p> <p><i>If used, it is essential that pedestal roller(s) are correctly aligned with the winch storage drum and the centre of the bow chain stopper. This enables a direct lead from the centre of the bow fairlead to the centre of the bow chain stopper while allowing the pick-up line to be stowed evenly on the stowage drum. There should be at least three metres distance between the bow chain stopper and the closest pedestal roller to allow for the pick-up line eye, connecting shackle, shipboard-end oblong plate and a number of chafe chain links.</i></p> <p><i>There should be no obstructions or fittings (e.g. a hatch with securing dogs) close to the route of the pick-up line or chain to ensure that if the line is allowed to run free during letting go it is unlikely to snag on any such structure.</i></p> <p><i>On all conventional tankers, winch stowage drums used to stow the pick-up line should be capable of lifting at least 15 tonnes and be of sufficient size to accommodate 150m of 80mm diameter line. Using winch warping drums to handle pick-up lines is considered unsafe and should be avoided. Remotely operated winch stowage drums may give some additional snapback injury protection to the winch operator. (MEG 4.3.4) (MEG 4.3.3)</i></p>
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<p>10.44</p>	<p><b>Are the officers and crew aware of the safe operating requirements of any watertight doors fitted?</b></p> <p><i>Drills for the operating of watertight doors, side scuttles, valves and closing mechanisms of scuppers, ash-chutes and rubbish-chutes shall take place weekly. In ships in which the voyage exceeds one week in duration a complete drill shall be held before leaving port, and others thereafter at least once a week during the voyage. (SOLAS V Reg 21.1)</i></p> <p><i>A record of all drills and inspections required by this regulation shall be entered in the logbook with an explicit record of any defects which may be disclosed. (SOLAS V Reg 21.4)</i></p> <p><i>Watertight door controls, including hydraulic piping and electric cables, shall be kept as close as practicable to the bulkhead in which the doors are fitted, in order to minimize the likelihood of them being involved in any damage which the ship may sustain. The positioning of watertight doors and their controls shall be such that if the ship sustains damage within one fifth of the breadth of the ship, as defined in regulation 2, such distance being measured at right angles to the centreline at the level of the deepest subdivision draught, the operation of the watertight doors clear of the damaged portion of the ship is not impaired. (SOLAS II-I Reg 13.5.3)</i></p> <p><i>All power-operated sliding watertight doors shall be provided with means of indication which will show at all remote operating positions whether the doors are open or closed. Remote operating positions shall only be at the navigation bridge. (SOLAS II-I Reg 13.6)</i></p>	<p><b>Are the officers and crew aware of the safe operating requirements of any watertight doors fitted?</b></p> <p><i>Drills for the operating of watertight doors, side scuttles, valves and closing mechanisms of scuppers, ash chutes and rubbish chutes shall take place weekly. In ships in which the voyage exceeds one week in duration a complete drill shall be held before leaving port, and others thereafter at least once a week during the voyage. (SOLAS V Reg 21.1)</i></p> <p><i>A record of all drills and inspections required by this regulation shall be entered in the logbook with an explicit record of any defects which may be disclosed. (SOLAS V Reg 21.4)</i></p> <p><i>Watertight door controls, including hydraulic piping and electric cables, shall be kept as close as practicable to the bulkhead in which the doors are fitted, in order to minimize the likelihood of them being involved in any damage which the ship may sustain. The positioning of watertight doors and their controls shall be such that if the ship sustains damage within one fifth of the breadth of the ship, as defined in regulation 2, such distance being measured at right angles to the centreline at the level of the deepest subdivision draught, the operation of the watertight doors clear of the damaged portion of the ship is not impaired. (SOLAS II-I Reg 13.5.3)</i></p> <p><i>All power-operated sliding watertight doors shall be provided with means of indication which will show at all remote operating positions whether the doors are open or closed. Remote operating positions shall only be at the navigation bridge. (SOLAS II-I Reg 13.6)</i></p> <p><i>Doors provided to ensure the watertight integrity of internal openings which are used while at sea are to be sliding watertight doors capable of being remotely closed from the bridge and are also to be operable locally from each side of the bulkhead. Indicators are to be provided at the control position showing whether the doors are open or closed, and an audible alarm is to be provided at the door closure. The power, control and indicators are to be operable in the event of main power failure. Particular attention is to be paid to minimizing the effect of control system failure. Each power-operated sliding watertight door shall be provided with an individual hand-operated mechanism. It shall be possible to open and close the door by hand at the door itself from both sides. (SOLAS II-I Reg 13.1.2)</i></p> <p><i>Access doors and access hatch covers normally closed at sea, intended to ensure the watertight integrity of internal openings, shall be provided with means of indication locally and on the bridge showing whether these doors or hatch covers are open or closed. A notice is to be affixed to each such door or hatch cover to the effect that it is not to be left open. (SOLAS II-I Reg 13.1.3)</i></p>
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