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Shipping Guidance Notice – 086(a)
International Maritime Organisation (IMO) Conventions: Guidance and Instruction on arrangements "To the Satisfaction of the Administration"
Supercedes SGN 086

To: Ship Owners, Operators, Master's, and Recognised Organisations

Introduction

International Maritime Organization (IMO) conventions (i.e. SOLAS, MARPOL, Load Line, and COLEGs) have a number of rules and regulations which do not prescribe arrangements but there remains a specific requirement for that the arrangement be '*to the satisfaction of the Administration*'.

Purpose

The purpose of this shipping notice is to provide guidance or instruction on arrangements that are to be '*to the satisfaction of the Administration*'.

Gibraltar Maritime Administration Requirements

GMA requirements are provided in **Annex A.**

Note: Circulars referenced within Annex A are current at the time of publication. Latest versions are to be applied as applicable.

GMA collaborates with the other REG members in order to provide unified guidance and instructions where possible.

Acceptance on a case by case basis

Whilst the purpose of this shipping notice is to provide guidance or instruction on arrangements that are to be '*to the satisfaction of the Administration*' it is recognised that this is not appropriate to provide prescriptive guidance or instruction for all requirements due to the number of factors that have to be taken into consideration.

In such cases the technical justification for acceptance will be considered by GMA on a 'case by case' basis'; for functions delegated to the Recognised Organisations, these should be supported by the Recognised Organization in the first instance.

Steve Gomez – Chief Surveyor (Ag)
For & on behalf of the Maritime Administrator

Issue date: 11 May 2023

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Annex A

SOLAS Chapter II-1				
Chapter	**Reg.**	**Reg Title**	**Paragraph Text**	**GMA Requirements**
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	1.3	Application	"Repairs, alterations and modifications of a major character and outfitting related thereto shall meet the requirements for ships constructed on or after the date on which any relevant amendments enter into force, in so far as the Administration deems reasonable and practicable".	GMA will decide each case on its own merits, being guided by the unified interpretations referred to within Regulation 1.3, with the aim of either achieving the appropriate Required Index R or maintaining the Attained Index A at the highest level practicable. However, if alterations or modifications of major character significantly impact the watertight subdivision of the ship, it should comply with the damage stability regulations in part B-1 applicable when the alterations or modifications of major character are carried out unless the Administration determines that this is not reasonable and practicable, in which case the attained subdivision index A should be raised above the original construction required subdivision index R as much as practical.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-2.4	Protective Coatings of Dedicated Seawater Ballast Tanks in All Types of Ships and Double-Side Skin Spaces of Bulk Carriers	Maintenance of the protective coating system shall be included in the overall ship's maintenance scheme. The effectiveness of the protective coating system shall be verified during the life of a ship by the Administration or an organization recognized by the Administration, based on the guidelines developed by the Organization.	See MSC.1/Circ1330 (Guidelines for maintenance and repair of protective coatings). The mandatory standard applies in accordance with Resolution MSC.215(82) which sets out the Performance Standard for Protective Coatings (PSPC). This is fully delegated to ROs who should follow the above standard. There is no scope for application of the Administration's discretion.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-3.2	Safe access to tanker bows	Every tanker shall be provided with the means to enable the crew to gain safe access to the bow even in severe weather conditions. Such means of access shall be approved by the Administration based on the guidelines developed by the Organization.	See MSC.62(67)/Rev.1 (Revised Guidelines for safe access to tanker bows). This is fully delegated to ROs who should apply the relevant standard set out in MSC.62(67)/Rev.1. The only consideration to be applied by MCA is where an exemption from compliance is sought for an equivalent arrangement on smaller vessels
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-4.1.2.2	Emergency towing arrangements and procedures	emergency towing arrangements at both ends shall be of adequate strength taking into account the size and deadweight of the ship, and the expected forces during bad weather conditions. The design and construction and prototype testing of emergency towing arrangements shall be approved by the Administration, based on the Guidelines developed by the Organization	See the Guidelines on emergency towing arrangements for tankers (resolution MSC.35(63), as amended by MSC.132(75)). This is fully delegated to ROs who should apply the relevant standard set out in MSC.35(63), as amended by MSC.132(75). There is no scope for application of the Administration's discretion.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-6.2.2	Access to and within spaces in, and forward of, the cargo area of oil tankers and bulk carriers	Where a permanent means of access may be susceptible to damage during normal cargo loading and unloading operations or where it is impracticable to fit permanent means of access, the Administration may allow, in lieu thereof, the provision of movable or portable means of access, as specified in the Technical provisions, provided that the means of attaching, rigging, suspending or supporting the portable means of access forms a permanent part of the ship's structure. All portable equipment shall be capable of being readily erected or deployed by ship's personnel.	See MSC.133(76) (Technical Provisions for means of access for inspections). This is fully delegated to ROs who should apply the relevant standard introduced in MSC.133(76) but now set out in MSC.158(78). There is no scope for application of the Administration's discretion other than if GMA prohibits application of specific provisions relating to portable means of access. No justification is seen for this. Agreed to keep text
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-6.2.3	Access to and within Spaces in, and forward of, the Cargo Area of Oil Tankers and Bulk Carriers	The construction and materials of all means of access and their attachment to the ship's structure shall be to the satisfaction of the Administration. The means of access shall be subject to survey prior to, or in conjunction with, its use in carrying out surveys in accordance with regulation I/10.	This is fully delegated to ROs who should apply the relevant standard introduced in MSC.133(76) but now set out in MSC.158(78) (as amend by MSC.1/Circ.1507), including survey of all means of access and their permanently affixed mounting points (including any portable means) during ESP surveys. There is no scope for application of the Administration's discretion other than if GMA prohibits application of specific provisions relating to portable means of access permitted by Regulation 3-6.2.2. No justification is seen for this.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-6.5.3	Access to and within Spaces in, and forward of, the Cargo Area of Oil Tankers and Bulk Carriers	For oil tankers of less than 5,000 tonnes deadweight, the Administration may approve, in special circumstances, smaller dimensions for the openings referred to in paragraphs 5.1 and 5.2, if the ability to traverse such openings or to remove an injured person can be proved to thesatisfaction of the Administration.	This is fully delegated to ROs. On this basis, it is therefore the ROs which may approve the alternative arrangements.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-8.5	Towing and mooring equipment	Arrangements, equipment and fittings provided in accordance with paragraph 4 above shall meet the appropriate requirements of the Administration or an organization recognized by the Administration under regulation I/6	See MSC.1/Circ.1175/Rev.1 (Revised Guidance on Shipboard Towing and Mooring Equipment). This is a fully delegated Class function which is already covered in assignment of Class notation on Convention vessels. The IMO requirement in MSC.1/Circ.1175/Rev.1 will only apply to vessels from 1 January 2024, as specified in MSC.474(102) (adopted on 11 November 2020). For existing vessels, MSC.1/Circ.1175 applies unamended. This is effectively a parallel system and should only apply on other ships where there this is not already covered by delegated Class survey, as an alternative to applying LR Class rules by default on a UK vessel. There is no evidence the IMO requirement is fully adopted by IACS through a Unified Interpretation or Unified Requirement.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-9.1	Means of embarkation on and disembarkation from ships	Ships constructed on or after 1 January 2010 shall be provided with means of embarkation on and disembarkation from ships for use in port and in port related operations, such as gangways and accommodation ladders, in accordance with paragraph 2, unless the Administration deems that compliance with a particular provision is unreasonable or impractical	Circumstances where compliance may be deemed unreasonable may include where the ship: 1. has small freeboards and is provided with boarding ramps; or 2. is engaged in voyages between designated ports where appropriate shore accommodation /embarkation ladders (platforms) are provided. Circumstances are defined above but are not necessarily exhaustive. Discretion would be retained by GMA to allow non-compliance for other reasons on application e.g. boarding by tender.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-11.4	Corrosion protection of cargo oil tanks of crude oil tankers	The Administration may exempt a crude oil tanker from the requirements of paragraph 3 to allow the use of novel prototype alternatives to the coating system specified in paragraph 3.1, for testing, provided they are subject to suitable controls, regular assessment and acknowledgement of the need for immediate remedial action if the system fails or is shown to be failing. Such exemption shall be recorded on an exemption certificate.	Exemption is only permitted within the terms of the regulation. This is for testing of a 'novel' alternative coating to the coating specified in MSC.288(87) or for a different form of alternative construction to that specified in MSC.289(87), both subject to the provisions described on application via the RO.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-11.5	Corrosion protection of cargo oil tanks of crude oil tankers	The Administration may exempt a crude oil tanker from the requirements of paragraph 3 if the ship is built to be engaged solely in the carriage of cargoes and cargo handling operations not causing corrosion**. Such exemption and conditions for which it is granted shall be recorded on an exemption certificate.	See MSC.1/Circ.1421 - Guidelines on exemptions for crude oil tankers solely engaged in the carriage of cargoes and cargo-handling operations not causing corrosion. Exemption is permitted under the terms of the regulation for cargoes defined in MSC.1/Circ.1421 on application from the owner prior to signing of the construction contract.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-12.1	Protection against noise	This regulation shall apply to ships of 1,600 gross tonnage and above: 1. for which the building contract is placed on or after 1 July 2014; or 2. in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 January 2015; or 3. the delivery of which is on or after 1 July 2018, unless the Administration deems that compliance with a particular provision is unreasonable or impractical.	Paragraph 1.3.6 of the 2014 Code on Noise Levels on Ships ("Noise Code") (see MSC.337(91)) provides that "Dispensations from certain requirements may in special circumstances be granted by the Administration, if it is documented that compliance will not be possible despite relevant and reasonable technical noise reduction measures. Such dispensation shall not include cabins, unless exceptional circumstances prevail. If dispensation is granted, it shall be ensured that the goal of [the] Code is achieved and the noise exposure limits should be considered in conjunction with chapter 5 [of the Code]". The applicable IMO standard is MSC.337(91) Noise Code 2014. The Administration needs to retain the flexibility for dispensation from mandatory parts of the 2014 Code as indicated at paragraph 1.3.6, with some reservation regarding whether application of exceptional circumstances to cabins should ever be considered. This is separate from the Administration's general ability to dispense with a provision deemed to be unreasonable or impracticable through Regulation 3-12.1, which may possibly be regarded as an ability to extend disapplication of all or parts of the 2014 Code to types of vessel beyond those identified in paragraph 1.3.4.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	3-12.2	Protection against noise	On ships delivered before 1 July 2018 and: 1. contracted for construction before 1 July 2014 and the keels of which are laid or which are at a similar stage of construction on or after 1 January 2009; or(Amended by Res.MSC.409(97)) 2. in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 January 2009 but before 1 January 2015, measures shall be taken to reduce machinery noise in machinery spaces to acceptable levels as determined by the Administration.** If this noise cannot be sufficiently reduced the source of excessive noise shall be suitably insulated or isolated or a refuge from noise shall be provided if the space is required to be manned. Ear protectors shall be provided for personnel required to enter such spaces, if necessary.	Maximum allowable or recommended noise levels are described in Chapters 4 and 5 of the 2014 Noise Code, and apply to new ships. The levels defined in A.468(XII) may be applied to existing ships, and used to determine when additional protective measures require to be taken for the protection of personnel as indicated in the footnote.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	4.3	General	The Administration may, for a particular ship or group of ships, accept alternative methodologies if it is satisfied that at least the same degree of safety as represented by these regulations is achieved. Any Administration which allows such alternative methodologies shall communicate to the Organization particulars thereof.	The GMA will consider proposals for using alternative methodologies, examining each case on its own merits. Detailed justification for not following the usual SOLAS Ch II-1 methodology must be provided as well as clear demonstration that the safety levels provided are at least equivalent.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	4.5	General	Where it is proposed to fit decks, inner skins or longitudinal bulkheads of sufficient tightness to seriously restrict the flow of water, the Administration shall be satisfied that proper consideration is given to beneficial or adverse effects of such structures in the calculations.	Such consideration will form part of the usual approval process for assessing the damage stability for each individual ship on a case-by-case basis, guided by the explanatory notes to Regulation 7-2.2.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	5.2	Intact Stability	The Administration may allow the inclining test of an individual cargo ship to be dispensed with provided basic stability data are available from the inclining test of a sister ship and it is shown to the satisfaction of the Administration that reliable stability information for the exempted ship can be obtained from such basic data, as required by regulation 5-1. A weight survey shall be carried out upon completion and the ship shall be inclined whenever in comparison with the data derived from the sister ship, a deviation from the lightship displacement exceeding 1% for ships of 160 m or more in length and 2% for ships of 50 m or less in length and as determined by linear interpolation for intermediate lengths or a deviation from the lightship longitudinal centre of gravity exceeding 0.5% of Ls is found	The assessment of the data from a sister ship to allow the inclining test of an individual cargo ship to be exempted from an inclining test will be made on a case-by-case basis as part of the usual process for assessing the damage stability using the explanatory notes to Regulation 5.2. Sister ship shall be built by the same yard from the same plans (MSC/Circ.1158).

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	5.3	Intact Stability	The Administration may also allow the inclining test of an individual ship or class of ships especially designed for the carriage of liquids or ore in bulk to be dispensed with when reference to existing data for similar ships clearly indicates that due to the ship's proportions and arrangements more than sufficient metacentric height will be available in all probable loading conditions.	The ship types and classes which have an excess of metacentric height enabling the inclining test to be dispensed with are well known to the GMA and approving authorities and an application for such dispensation will usually be favourably received.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	5-1.1	Stability information to be supplied to the master	The master shall be supplied with such information to the satisfaction of the Administration as is necessary to enable him by rapid and simple processes to obtain accurate guidance as to the stability of the ship under varying conditions of service. A copy of the stability information shall be furnished to the Administration.	The suitability of the stability information supplied to the master will be assessed by the approving authorities as part of the usual approval process for each individual ship on a case-by-case basis.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	5-1.6	Stability information to be supplied to the master	When curves or tables of minimum operational metacentric height (GM) or maximum allowable KG versus draught are not provided, the master shall ensure that the operating condition does not deviate from approved loading conditions, or verify by calculation that the stability requirements are satisfied for this loading condition.	This provision is intended to address cases where an Administration approves an alternative means of verification. See comment under Regulation 4.3. above.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	7.7	Attained subdivision index A	If pipes, ducts or tunnels are situated within the assumed extent of damage, arrangements are to be made to ensure that progressive flooding cannot thereby extend to compartments other than those assumed flooded. However, the Administration may permit minor progressive flooding if it is demonstrated that its effects can be easily controlled and the safety of the ship is not impaired.	What constitutes “minor progressive flooding” is defined in paragraph 2 of the explanatory note to Reg. 7.7. and will be assessed in the context of the overall approval process of the damage stability on a ship-by-ship and case-by-case basis.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	7-2.2	Calculation of the factor s_i	For passenger ships, and cargo ships fitted with cross-flooding devices, the factor $s_{intermediate,i}$ is taken as the least of the s-factors obtained from all flooding stages including the stage before equalization, if any, and is to be calculated as follows: $$S_{\text{intermediate},i} = \left[\frac{GZ_{\max}}{0.05} \times \frac{Range}{7}\right]^{\frac{1}{4}}$$ where GZ_{max} is not to be taken as more than 0.05 m and Range as not more than 7°. $s_{intermediate,i}$ = 0, if the intermediate heel angle exceeds 15º for passenger ships and 30° for cargo ships. For cargo ships not fitted with cross-flooding devices the factor $s_{intermediate,i}$ is taken as unity, except if the Administration considers that the stability in intermediate stages of flooding may be insufficient, it should require further investigation thereof. For passenger and cargo ships, where cross-flooding devices are fitted, the time for equalization shall not exceed 10 min.	The need for further investigation of the damage stability of cargo ships during intermediate stages of flooding is to be decided on a case-by-case during the approval process.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	7-2.5	Calculation of the factor s_i	Unsymmetrical flooding is to be kept to a minimum consistent with the efficient arrangements. Where it is necessary to correct large angles of heel, the means adopted shall, where practicable, be self-acting, but in any case where controls to equalization devices are provided they shall be operable from above the bulkhead deck of passenger ships and the freeboard deck of cargo ships. These fittings together with their controls shall be acceptable to the Administration, Suitable information concerning the use of equalization devices shall be supplied to the master of the ship.	The GMA's preference for correcting large angles of heel by means of equalization devices is that such devices should be self-acting as they work quicker and are less prone to human error. If the fitting of such devices is not practicable for any reason, then proposals for alternatives will be examined as part of the approval process on a case-by case basis.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	7-3.3	Permeability	Other figures for permeability may be used if substantiated by calculations.	This paragraph allows for the recalculation of permeabilities. This should only be considered in cases where it is evident that there is a major discrepancy between the values shown in the regulation and the real values. It is not designed for improving the attained value of a deficient ship of regular type by the modification of chosen spaces in the ship that are known to provide significantly onerous results. All proposals should be considered on a case-by-case basis by the Administration and should be justified with adequate calculations and arguments.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	9.1 & 9.2	Double Bottoms in Passenger Ships and Cargo Ships Other than Tankers	1 A double bottom shall be fitted extending from the collision bulkhead to the afterpeak bulkhead, as far as is practicable and compatible with the design and proper working of the ship. 2 Where a double bottom is required to be fitted, the inner bottom shall be continued out to the ship's sides in such a manner as to protect the bottom to the turn of the bilge. Such protection shall be deemed satisfactory if the inner bottom is not lower at any part than a plane parallel with the keel line and which is located not less than a vertical distance h measured from the keel line, as calculated by the following formula: h = B/20 However, in no case is the value of h to be less than 760 mm, and need not be taken as more than 2000 mm.	The non-fitment of a double bottom, either completely or partially is, in general, to be avoided for both safety and environmental reasons. Where clearly non-practical, proposals will be considered on a case-by-case basis as part of the usual damage stability approval process. The determination regarding the requirement to fit a double bottom "as far as this is practicable and compatible with the design and proper working of the ship" is made, or should be accepted by, the Administration or a recognised organisation acting on its behalf.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	9.3.2	Double Bottoms in Passenger Ships and Cargo Ships Other than Tankers	Other wells (e.g. for lubricating oil under main engines) may be permitted by the Administration if satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this regulation. 3.2.1 For a cargo ship of 80 m in length and upwards or for a passenger ship, proof of equivalent protection is to be shown by demonstrating that the ship is capable of withstanding bottom damages as specified in paragraph 8. Alternatively, wells for lubricating oil below main engines may protrude into the double bottom below the boundary line defined by the distance h provided that the vertical distance between the well bottom and a plane coinciding with the keel line is not less than h/2 or 500 mm, whichever is greater. 3.2.2 For cargo ships of less than 80 m in length the arrangements shall provide a level of safety satisfactory to the Administration	The GMA will check the arrangements for "other wells" in accordance with sub-paragraphs 3.2.1 and 3.2.2 of Regulation 9. For cargo ships of less than 80 m in length the GMA will apply the guidance contained in the explanatory notes to Regulations 9.3.2.2, 9.6 and 9.7 (see below).
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	9.5	Double Bottoms in Passenger Ships and Cargo Ships Other than Tankers	In the case of passenger ships to which the provisions of regulation 1.5 apply and which are engaged on regular service within the limits of a short international voyage as defined in Regulation III/3.22, the Administration may permit a double bottom to be dispensed with if satisfied that the fitting of a double bottom in that part would not be compatible with the design and proper working of the ship.	Proposals for non-fitment of a double bottom will be considered on a case-by-case basis in the context of the overall safety of the ship and taking into account the area of trading.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations.	9.6	Double Bottoms in Passenger Ships and Cargo Ships Other than Tankers	Any part of a cargo ship of 80 m in length and upwards or of a passenger ship that is not fitted with a double bottom in accordance with paragraphs 1, 4 or 5, as specified in paragraph 2, shall be capable of withstanding bottom damages, as specified in paragraph 8, in that part of the ship. For cargo ships of less than 80 m in length the alternative arrangements shall provide a level of safety to the satisfaction of the Administration.	For cargo ships of less than 80 m in length see explanatory notes to Reg. 9 (3.2.2.2, 9.6 and 9.7) above.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	9.7	Double Bottoms in Passenger Ships and Cargo Ships Other than Tankers	In the case of unusual bottom arrangements in a cargo ship of 80 m in length and upwards or a passenger ship, it shall be demonstrated that the ship is capable of withstanding bottom damages as specified in paragraph 8. For cargo ships of less than 80 m in length the alternative arrangements shall provide a level of safety to the satisfaction of the Administration.	For cargo ships of less than 80 m in length see explanatory notes to Reg. 9 (3.2.2.2, 9.6 and 9.7) above.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	9.3.2.2.2, 9.6 & 9.7	Double Bottoms in Passenger Ships and Cargo Ships Other than Tankers	9.3.2.2 For cargo ships of less than 80 m in length the arrangements shall provide a level of safety to the satisfaction of the Administration. 9.6 Any part of a cargo ship of 80 m in length and upwards or of a passenger ship that is not fitted with a double bottom in accordance with paragraphs 1, 4 or 5, as specified in paragraph 2, shall be capable of withstanding bottom damages, as specified in paragraph 8, in that part of the ship. For cargo ships of less than 80 m in length the alternative arrangements shall provide a level of safety to the satisfaction of the Administration. 9.7 In the case of unusual bottom arrangements in a cargo ship of 80 m in length and upwards or a passenger ship, it shall be demonstrated that the ship is capable of withstanding bottom damages as specified in paragraph 8. For cargo ships of less than 80 m in length the alternative arrangements shall provide a level of safety to the satisfaction of the Administration.	See previous comments under Reg. 9.3.2. In relation to this requirement, the EN states: For cargo ships of less than 80 m in length (L), the alternative arrangements to provide a level of safety satisfactory to the Administration should be limited to compartments not having a double bottom, having an unusual bottom arrangement, or having an “other well” extending below the required double bottom height that is greater than the h/2 or 500 mm limit indicated in regulation. 9.3.2.1. In these cases compliance with the bottom damage standard in regulation 9.8 should be demonstrated assuming that the damage will only occur between the transverse watertight bulkheads in compartments not having a double bottom, having an unusual bottom arrangement, or having an “other well” extending below the required double bottom height that is greater than the h/2 or 500 mm limit indicated in regulation 9.3.2.1.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	9.9	Double Bottoms in Passenger Ships and Cargo Ships Other than Tankers	In case of large lower holds in passenger ships, the Administration may require an increased double bottom height of not more than B/10 or 3 m, whichever is less, measured from the keel line. Alternatively, bottom damages may be calculated for these areas, in accordance with paragraph 8, but assuming an increased vertical extent.	The GMA will be guided by the explanatory notes to Regulation 9.9 and agree with the involved parties which alternative is most appropriate for the ship in question.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	12.1	Peak and Machinery Space Bulkheads, Shaft Tunnels, etc.	A collision bulkhead shall be fitted which shall be watertight up to the bulkhead deck of passenger ships and the freeboard deck of cargo ships. This bulkhead shall be located at a distance from the forward perpendicular of not less than 0.05L or 10 m, whichever is the less, and, except as may be permitted by the Administration, not more than 0.08L or 0.05L + 3 m, whichever is the greater.	The GMA will discuss with the involved parties should there be any practical reason why the location of the collision bulkhead cannot comply with this regulation. Agreement will be sought on an individual case-by-case basis.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	12.6.1	Peak and Machinery Space Bulkheads, Shaft Tunnels, etc.	Except as provided in paragraph 6.2, the collision bulkhead may be pierced below the bulkhead deck of passenger ships and the freeboard deck of cargo ships by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screw-down valve capable of being operated from above the bulkhead deck of passenger ships and the freeboard deck of cargo ships, the valve being located inside the forepeak at the collision bulkhead. The Administration may, however, authorize the fitting of this valve on the after side of the collision bulkhead provided that the valve is readily accessible under all service conditions and the space in which it is located is not a cargo space. Alternatively, for cargo ships, the pipe may be fitted with a butterfly valve suitably supported by a seat or flanges and capable of being operated from above the freeboard deck. All valves shall be of steel, bronze or other approved ductile material. Valves of ordinary cast iron or similar material are not acceptable.	The GMA will discuss with the involved parties should there be a need to fit a screw-down valve on the after side of the collision bulkhead. Agreement is likely to be given on a case-by-case basis provided the conditions given in the regulation for so locating the valve are met.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	12.6.2	Peak and Machinery Space Bulkheads, Shaft Tunnels, etc.	If the forepeak is divided to hold two different kinds of liquids the Administration may allow the collision bulkhead to be pierced below the bulkhead deck of passenger ships and the freeboard deck of cargo ships by two pipes, each of which is fitted as required by paragraph 6.1, provided the Administration is satisfied that there is no practical alternative to the fitting of such a second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.	The GMA will decide this issue on a case-by-case basis bearing in mind any practical issues balanced against the need to ensure that the overall safety of the ship is maintained.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	12.10	Peak and Machinery Space Bulkheads, Shaft Tunnels, etc.	Bulkheads shall be fitted separating the machinery space from cargo and accommodation spaces forward and aft and made watertight up to the bulkhead deck of passenger ships and the freeboard deck of cargo ships. An afterpeak bulkhead shall also be fitted and made watertight up to the bulkhead deck or the freeboard deck. The afterpeak bulkhead may, however, be stepped below the bulkhead deck or the freeboard deck, provided the degree of safety of the ship as regards subdivision is not thereby diminished.	In relation to this requirement, the EN states: In cargo ships with a raised quarter deck, it may be impracticable to extend the afterpeak bulkhead to the freeboard deck as the freeboard deck does not extend to the aft perpendicular. Provided that the afterpeak bulkhead extends above the deepest load line, and that all rudderstock bearings are housed in a watertight compartment without open connection to spaces located in front of the afterpeak bulkhead, termination of the afterpeak bulkhead on a watertight deck lower than the freeboard deck can be accepted by the Administration. Should this situation arise the GMA will be guided by this EN.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	12.11	Peak and Machinery Space Bulkheads, Shaft Tunnels, etc.	In all cases stern tubes shall be enclosed in watertight spaces of moderate volume. In passenger ships the stern gland shall be situated in a watertight shaft tunnel or other watertight space separate from the stern tube compartment and of such volume that, if flooded by leakage through the stern gland, the bulkhead deck will not be immersed. In cargo ships other measures to minimize the danger of water penetrating into the ship in case of damage to stern tube arrangements may be taken at the discretion of the Administration.	The GMA will be guided by the explanatory note to this regulation in assessing the safety of the stern tube arrangements in cargo ships. The watertight shaft tunnel, or other watertight space in which, the stern gland is to be situated, should be of sufficient height and width to allow proper attention to be given to shaft couplings, bearings etc. within the space.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13-1.1	Openings in Watertight Bulkheads and Internal Decks in Cargo Ships	The number of openings in watertight subdivisions is to be kept to a minimum compatible with the design and proper working of the ship. Where penetrations of watertight bulkheads and internal decks are necessary for access, piping, ventilation, electrical cables, etc., arrangements are to be made to maintain the watertight integrity. The Administration may permit relaxation in the watertightness of openings above the freeboard deck, provided that it is demonstrated that any progressive flooding can be easily controlled and that the safety of the ship is not impaired.	The GMA will consider any proposals for relaxation of the watertightness of openings above the freeboard deck as part of the damage stability approval process and any decisions thereon will be made on a case-by-case basis for each individual ship to ensure that overall safety is not impaired.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13-1.4	Openings in Watertight Bulkheads and Internal Decks in Cargo Ships	Watertight doors or ramps of satisfactory construction may be fitted to internally subdivide large cargo spaces, provided that the Administration is satisfied that such doors or ramps are essential. These doors or ramps may be hinged, rolling or sliding doors or ramps, but shall not be remotely controlled. Should any of the doors or ramps be accessible during the voyage, they shall be fitted with a device which prevents unauthorized opening.	The GMA will discuss with all interested parties any proposals for fitting watertight doors or ramps to internally subdivide large cargo spaces on an individual ship to confirm that they are essential for the operation of the ship.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.6.1	Openings in watertight boundaries below the bulkhead deck in passenger ships	Each power-operated sliding watertight door: .1 shall have a vertical or horizontal motion; .2 shall, subject to paragraph 9, be normally limited to a maximum clear opening width of 1.2 m. The Administration may permit larger doors only to the extent considered necessary for the effective operation of the ship provided that other safety measures, including the following, are taken into consideration: .1 special consideration shall be given to the strength of the door and its closing appliances in order to prevent leakages; and .2 the door shall be located inboard the damage zone B/5; .3 shall be fitted with the necessary equipment to open and close the door using electric power, hydraulic power or any other form of power that is acceptable to the Administration;	(1) The GMA may permit a clear opening width greater than 1.2 m if satisfied that it is necessary for the effective operation of the ship and that, as a minimum, conditions 7.1.2.1 and .2 in this regulation are complied with. Each application to fit wide doors will be treated on a case-by-case basis and examined in the context of the overall safety of the ship from the damage stability aspect. See also B-4 Reg. 22.2.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.6.1 Continued	Openings in watertight boundaries below the bulkhead deck in passenger ships	.4 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 either side, and in addition, close the door from an accessible position above the bulkhead deck with an all-round crank motion or some other movement providing the same degree of safety acceptable to the Administration. Direction of rotation or other movement is to be clearly indicated at all operating positions. The time necessary for the complete closure of the door, when operating by hand gear, shall not exceed 90 s with the ship in the upright position. Visual indicators to show whether the door is open or closed shall be provided at the accessible position above the bulkhead deck; .5 shall be provided with controls for opening and closing the door by power from both sides of the door and also for closing the door by power from the central operating console(s) required by paragraph 7.1;	(2) The mechanism for operating sliding watertight doors by hand from above the bulkhead deck should be rapid in its action and be such as to be capable of operating the doors under unfavourable conditions. The mechanical operating gear above the bulkhead deck and, in the case of non-power operated doors, at the door itself, should consist of a crank handle or wheel and handle for all-round operation which should, in general, be permanently attached to the shafting. It is desirable that the hand gear of power operated doors fitted at the door itself should be of a similar type, but other types can be considered if the local gear is such that it could not interfere with the operation of the door from above the bulkhead deck. The lead of shafting to the door from above the bulkhead should be as direct as possible. Suitable provision should be made for lubricating the working parts of the mechanism; guards should be fitted where necessary. The hand operated gear of power operated doors should be permanently engaged unless satisfactory means are provided for engaging it from above the bulkhead deck. A suitable hand/hydraulic system for operating the watertight doors from above the bulkhead deck may be accepted.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.6.1 Continued	Openings in watertight boundaries below the bulkhead deck in passenger ships	.6 shall be provided with an audible alarm, distinct from any other alarm in the area, which will sound whenever the door is closed remotely by power and which shall sound for at least 5 s but no more than 10 s before the door begins to move and shall continue sounding until the door is completely closed. In the case of remote hand operation it is sufficient for the audible alarm to sound only when the door is moving. Additionally, in passenger areas and areas of high ambient noise the Administration may require the audible alarm to be supplemented by an intermittent visual signal at the door; and .7 shall have an approximately uniform rate of closure under power. The closure time, from the time the door begins to move to the time it reaches the completely closed position, shall in no case be less than 20 s or more than 40 s with the ship in the upright position.	(3) The decision on fitting an additional intermittent visual signal will be agreed with the involved parties on a case-by-case basis depending on the circumstances of the individual ship and the location of each door.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.6.6	Openings in watertight boundaries below the bulkhead deck in passenger ships	The enclosures of electrical components necessarily situated below the bulkhead deck shall provide suitable protection against the ingress of water.	Refer to the following publication IEC 60529:2003: .1 electrical motors, associated circuits and control components; protected to IPX 7 standard; .2 door position indicators and associated circuit components; protected to IPX 8 standard; and .3 door movement warning signals; protected to IPX 6 standard. Other arrangements for the enclosures of electrical components may be fitted provided the Administration is satisfied that an equivalent protection is achieved. The water pressure IPX 8 shall be based on the pressure that may occur at the location of the component during flooding for a period of 36h.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.8.1	Openings in watertight boundaries below the bulkhead deck in passenger ships	If the Administration is satisfied that such doors are essential, watertight doors of satisfactory construction may be fitted in watertight bulkheads dividing cargo spaces on 'tween decks. Such doors may be hinged, rolling or sliding doors but shall not be remotely controlled. They shall be fitted at the highest level and as far from the shell plating as practicable, but in no case shall the outboard vertical edges be situated at a distance from the shell plating which is less than 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.	Whether such doors are essential will be discussed as part of the approval process for each individual ship on a case-by-case basis.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.8.2	Openings in watertight boundaries below the bulkhead deck in passenger ships	Should any such doors be accessible during the voyage, they shall be fitted with a device which prevents unauthorized opening. When it is proposed to fit such doors, the number and arrangements shall receive the special consideration of the Administration.	If the fitting of such doors is proposed, their number and arrangements will be discussed and agreed as part of the approval process for each individual ship on a case-by-case basis.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.9	Openings in watertight boundaries below the bulkhead deck in passenger ships	Portable plates on bulkheads shall not be permitted except in machinery spaces. The Administration may permit not more than one power-operated sliding watertight door larger than those specified in paragraph 6.1.2 to be substituted for these portable plates in each watertight bulkhead, provided these doors are intended to remain closed during navigation except in case of urgent necessity at the discretion of the master. These doors need not meet the requirements of paragraph 6.1.4 regarding complete closure by hand-operated gear in 90 s.	The GMA will apply the regulation concerning the permitted number of power-operated SWT doors and will agree on a case-by-case basis which doors may opened during navigation at the discretion of the master as part of the approval process.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	13.10.2	Openings in watertight boundaries below the bulkhead deck in passenger ships	Where it is proposed to fit tunnels piercing watertight bulkheads, these shall receive the special consideration of the Administration.	Where a watertight door must be fitted at one end of a tunnel, surveyors should note that an exemption from this requirement can be considered for short tunnels situated near the centre line of the ship, if the safety of the ship in the event of damage is not impaired. In other cases, where the tunnel is used as a passage at sea, access shall also be obtained by means of a trunkway extending watertight to above the margin line.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	15.2	Openings in the Shell Plating below the Bulkhead Deck of Passenger Ships and the Freeboard Deck of Cargo Ships	2 The arrangement and efficiency of the means for closing any opening in the shell plating shall be consistent with its intended purpose and the position in which it is fitted and generally to the satisfaction of the Administration.	1. The arrangements of side scuttles should be re-examined for compliance when an increase in draught is proposed. Any side scuttle found not to comply must be blanked off. 2. Where it is proposed to fit heavy duty side scuttles bolted to the shell, particular attention should be made where the connection is not bolted through the shell plating.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	15.6	Openings in the Shell Plating below the Bulkhead Deck of Passenger Ships and the Freeboard Deck of Cargo Ships	Automatic ventilating sidescuttles shall not be fitted in the shell plating below the bulkhead deck of passenger ships and the freeboard deck of cargo ships without the special sanction of the Administration.	Whilst in general not encouraging the fitting of such sidescuttles. The GMA will consider proposals on a case-by-case basis to ensure they are not to the detriment of the ship's overall safety.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	15.8.4	Openings in the Shell Plating below the Bulkhead Deck of Passenger Ships and the Freeboard Deck of Cargo Ships	Moving parts penetrating the shell plating below the deepest subdivision draught shall be fitted with a watertight sealing arrangement acceptable to the Administration. The inboard gland shall be located within a watertight space of such volume that, if flooded, the bulkhead deck of passenger ships and the freeboard deck of cargo ships will not be submerged. The Administration may require that if such compartment is flooded, essential or emergency power and lighting, internal communication, signals or other emergency devices must remain available in other parts of the ship.	The watertight sealing arrangements acceptable to the GMA are that the bulkhead/freeboard deck is not submerged as a result of flooding the watertight space surrounding the inboard gland will be dealt with as part of the approval process as will ensuring continuity of supply to the specified emergency services.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	15.8.5	Openings in the Shell Plating below the Bulkhead Deck of Passenger Ships and the Freeboard Deck of Cargo Ships	All shell fittings and valves required by this regulation shall be of steel, bronze or other approved ductile material. Valves of ordinary cast iron or similar material are not acceptable. All pipes to which this regulation refers shall be of steel or other equivalent material to the satisfaction of the Administration.	The GMA will accept the standards applied by the appropriate Classification Society to the materials used for the pipes referred to in this regulation.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	15.10	Openings in the Shell Plating below the Bulkhead Deck of Passenger Ships and the Freeboard Deck of Cargo Ships	For ships constructed on or after 1 January 2024, cargo ports and other similar openings (e.g. gangway and fueling ports) in the side of ships below the bulkhead deck of passenger ships and the freeboard deck of cargo ships shall be fitted with doors so designed as to ensure the same watertightness and structural integrity as the surrounding shell plating. Unless otherwise granted by the Administration, these openings shall open outwards. The number of such openings shall be the minimum compatible with the design and proper working of the ship. In no case shall these openings be so fitted as to have their lowest point below the deepest subdivision draught.	The GMA will only permit inward opening doors in specific circumstances of practical need, determined on a case-by-case basis, and only if satisfied that an equivalent level of safety to an outward-opening door is achieved. Where, in exceptional circumstances, the doors are permitted to open inwards, the framing of the door panel and the securing arrangements of the door will be specially considered.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	16.1.1	Construction and Initial Tests of Watertight Doors, Sidescuttles, etc.	The design, materials and construction of all watertight doors, sidescuttles, gangway and cargo ports, valves, pipes, ash-chutes and rubbish-chutes referred to in these regulations shall be to the satisfaction of the Administration.	In general, the design, materials and construction of all watertight closures and valves referred to is to be in accordance with recognised standards such as the requirements of a Classification Society, or BSI/ISO.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	16-1.1	Construction and Initial Tests of Watertight Decks, Trunks, etc.	Watertight decks, trunks, tunnels, duct keels and ventilators shall be of the same strength as watertight bulkheads at corresponding levels. The means used for making them watertight, and the arrangements adopted for closing openings in them, shall be to the satisfaction of the Administration. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck in passenger ships and up to the freeboard deck in cargo ships.	In general, the means for making the listed items watertight and the arrangements made for closing openings in them are to be in accordance with recognised standards such as the requirements of a Classification Society.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	17.1	Internal watertight integrity of passenger ships above the bulkhead deck	the Administration may require that all reasonable and practicable measures shall be taken to limit the entry and spread of water above the bulkhead deck. Such measures may include partial bulkheads or webs. When partial watertight bulkheads and webs are fitted on the bulkhead deck, above or in the immediate vicinity of watertight bulkheads, they shall have watertight shell and bulkhead deck connections so as to restrict the flow of water along the deck when the ship is in a heeled damaged condition. Where the partial watertight bulkhead does not line up with the bulkhead below, the bulkhead deck between shall be made effectively watertight. Where openings, pipes, scuppers, electric cables, etc. are carried through the partial watertight bulkheads or decks within the immersed part of the bulkhead deck, arrangements shall be made to ensure the watertight integrity of the structure above the bulkhead deck.	The GMA will examine the measures taken to limit the entry and spread of water above the bulkhead deck for each individual passenger ship on a case- by-case basis as part of the approval process, being guided by MSC/Circ.541 (as may be amended) and by the explanatory notes to this regulation.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	17-1.1.3	Integrity of the hull and superstructure, damage prevention and control on ro-ro passenger ships	The Administration may permit the fitting of particular accesses to spaces below the bulkhead deck provided they are necessary for the essential working of the ship, e.g. the movement of machinery and stores, and subject to such accesses being made watertight, fitted with alarms and open/close indicators on the navigation bridge	The GMA will examine the issue of fitting particular accesses to spaces below the bulkhead deck for each individual ro-ro passenger ship on a case-by case basis as part of the approval process, being guided by the explanatory notes to this regulation

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	17-1.2	Integrity of the hull and superstructure, damage prevention and control on ro-ro passenger ships	Indicators shall be provided on the navigation bridge for all shell doors, loading doors and other closing appliances which, if left open or not properly secured, could, in the opinion of the Administration, lead to flooding of a special category space or ro-ro space. The indicator system shall be designed on the fail-safe principle and shall show by visual alarms if the door is not fully closed or if any of the securing arrangements are not in place and fully locked and by audible alarms if such door or closing appliances become open or the securing arrangements become unsecured. The indicator panel on the navigation bridge shall be equipped with a mode selection function “harbour/sea voyage” so arranged that an audible alarm is given on the navigation bridge if the ship leaves harbour with the bow doors, inner doors, stern ramp or any other side shell doors not closed or any closing device not in the correct position. The power supply for the indicator system shall be independent of the power supply for operating and securing the doors.	As part of the approval process for a specific ship, the GMA will agree with all parties concerned which of the doors and other closing appliances should be provided with indicators.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	18.1	Assigning, marking and recording of subdivision load lines for passenger ships	In order that the required degree of subdivision shall be maintained, a load line corresponding to the approved subdivision draught shall be assigned and marked on the ship's sides. A ship intended for alternating modes of operation may, if the owners desire, have one or more additional load lines assigned and marked to correspond with the subdivision draughts which the Administration may approve for the alternative service configurations. Each service configuration so approved shall comply with part B-1 of this chapter independently of the results obtained for other modes of operation.	Additional load lines to correspond with subdivision draughts for alternative service conditions will be considered and assigned by the GMA as part of the approval process prior to issue of the Passenger Ship Safety Certificate (PSSC).
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	19.2	Damage control information	General precautions to be included shall consist of a listing of equipment, conditions, and operational procedures, considered by the Administration to be necessary to maintain watertight integrity under normal ship operations.	As part of the approval process, the GMA will agree a list of general precautions for the items shown with all interested parties on a ship-by-ship basis taking into account the Guidelines in MSC.1/Circ.1245 as amended by MSC.1/Circ.1570 and, for tankers, MSC.1/Circ.1461.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	19.3	Damage control information	Specific precautions to be included shall consist of a listing of elements (i.e. closures, security of cargo, sounding of alarms, etc.) considered by the Administration to be vital to the survival of the ship, passengers and crew.	The GMA will agree a list of elements considered to be vital to the survival of the ship and persons on board with all interested parties on a ship-by- ship basis as part of the approval process.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	20.1	Loading of Ships	On completion of loading of the ship and prior to its departure, the master shall determine the ship's trim and stability and also ascertain and record that the ship is upright and in compliance with stability criteria in relevant regulations. The determination of the ship's stability shall always be made by calculation or by ensuring that the ship is loaded according to one of the precalculated loading conditions within the approved stability information. The Administration may accept the use of an electronic loading and stability computer or equivalent means for this purpose.	In general, the GMA encourages the use of electronic loading and stability computers and will apply the guidance in MSC.1/Circ. 1229 and 1589 and for tankers, MSC.1/Circ.1461 in association with MGN 611 where the use of Type 3 loading instruments is strongly recommended as the best means of validating tanker damage stability upon departure.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	20.2	Loading of Ships	2 Water ballast should not in general be carried in tanks intended for oil fuel. In ships in which it is not practicable to avoid putting water in oil fuel tanks, oily- water separating equipment to the satisfaction of the Administration shall be fitted, or other alternative means, such as discharge to shore facilities, acceptable to the Administration shall be provided for disposing of the oily-water ballast.	For the fuel oil/water ballast tank, any discharges from this tank must meet both the Ballast Water Management Convention and MARPOL Annex I discharge requirements.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.2	Prevention and control of water ingress, etc.	Watertight doors located below the bulkhead deck of passenger ships and the freeboard deck of cargo ships having a maximum clear opening width of more than 1.2 m shall be kept closed during navigation, except for limited periods when absolutely necessary as determined by the Administration.	Proposals for opening such doors for limited periods during navigation will be considered by the GMA on a case-by-case basis for individual ships. See also B-2 Reg. 13.7.1 and B-4 Reg. 22.3.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.3	Prevention and control of water ingress, etc.	A watertight door may be opened during navigation to permit the passage of passengers or crew, or when work in the immediate vicinity of the door necessitates it being opened. The door must be immediately closed when transit through the door is complete or when the task which necessitated it being open is finished. The Administration shall authorize that such a watertight door may be opened during navigation only after careful consideration of the impact on ship operations and survivability taking into account guidance issued by the Organization*. A watertight door permitted to be opened during navigation shall be clearly indicated in the ship's stability information and shall always be ready to be immediately closed.	The GMA will consider proposals for opening watertight doors during navigation on a case-by- case basis, guided by MSC.1/Circ.1564, and will only authorize the opening of such doors if satisfied that the overall safety of the ship and persons on board is not unduly compromised. This will be done as part of the damage stability approval process. Regarding the requirement that Administrations authorise watertight doors that may be opened during navigation only after careful consideration of the impact on ship operations and survivability taking into account guidance issued by the Organization, no prescribed guidance with respect to stability survivability is considered necessary for cargo ships, For cargo ships, these authorizations are left at the discretion of the Administration. Authorisation for permitting certain watertight doors to remain open during navigation on cargo ships will only be granted by the GMA after due consideration has been given to the overall safety of the ship and will be dealt with on a case-by-case basis as part of the stability approval process.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.5	Prevention and control of water ingress, etc.	Watertight doors fitted in watertight bulkheads dividing cargo spaces on tween decks in accordance with regulation 13.8.1 shall be closed before the voyage commences and shall be kept closed during navigation. The time at which such doors are opened or closed shall be recorded in such logbook as may be prescribed by the Administration.	As per requirement set out for Regulation 22.12

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.10	Prevention and control of water ingress, etc.	Notwithstanding the requirements of paragraphs 8.1 and 8.4, the Administration may authorize that particular doors can be opened at the discretion of the master, if necessary for the operation of the ship or the embarking and disembarking of passengers when the ship is at safe anchorage and provided that the safety of the ship is not impaired.	Authorization for permitting certain doors to be opened when the ship is at a safe anchorage will only be granted by the GMA after due consideration has been given to the overall safety of the ship and will be dealt with on a case-by-case basis as part of the stability approval process.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.12	Prevention and control of water ingress, etc.	The master shall ensure, before any voyage commences, that an entry in such log-book as may be prescribed by the Administration is made of the time the doors specified in paragraph 13 are closed and the time at which particular doors are opened in accordance with paragraph 14.	Entries shall be made in the official log book recording the following: (a) the times of the last closing, before the ship proceeds on any voyage, of the watertight doors and other closing appliances referred to in regulation 22 and of the next opening of such doors and closing appliances; (b) the times of the opening and closing of any watertight door pursuant to regulation 22; (c) the times when portable plates referred to in regulation 22 are fitted in place and the times of any removal and replacement of such plates whilst the ship is on any voyage; (d) the occasions on which drills are held and inspections made in compliance with these Regulations and whether or not the closing appliances and devices to which any such drill or inspection relates are in good working order when the drill or inspection takes place; and (e) the occasions upon which the valves referred to in regulation 15 are operated.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.13	Prevention and control of water ingress, etc.	Hinged doors, portable plates, sidescuttles, gangway, cargo and bunkering ports and other openings, which are required by these regulations to be kept closed during navigation, shall be closed before the voyage commences. The time at which such doors are opened and closed (if permissible under these regulations) shall be recorded in such log-book as may be prescribed by the Administration.	As per requirement set out for Regulation 22.12

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.14	Prevention and control of water ingress, etc.	Where in a between-deck, the sills of any of the sidescuttles referred to in regulation 15.3.2 are below a line drawn parallel to the bulkhead deck at side of passenger ships and the freeboard deck at side of cargo ships, and having its lowest point 1.4 m plus 2.5% of the breadth of the ship above the water when the voyage commences, all the sidescuttles in that between-deck shall be closed watertight and locked before the voyage commences, and they shall not be opened before the ship arrives at the next port. In the application of this paragraph the appropriate allowance for fresh water may be made when applicable. .1 The time at which such sidescuttles are opened in port and closed and locked before the voyage commences shall be recorded in such log-book as may be prescribed by the Administration. .2 For any ship that has one or more sidescuttles so placed that the requirements of paragraph 14 would apply when it was floating at its deepest subdivision draught, the Administration may indicate the limiting mean draught at which these sidescuttles will have their sills above the line drawn parallel to the bulkhead deck at side of passenger ships and the freeboard deck at side of cargo ships, and having its lowest point 1.4 m plus 2.5% of the breadth of the ship above the waterline corresponding to the limiting mean draught, and at which it will therefore be permissible for the voyage to commence without them being closed and locked and to be opened during navigation on the responsibility of the master. In tropical zones as defined in the International Convention on Load Lines, 1966 in force, this limiting draught may be increased by 0.3 m.	As per requirement set out for Regulation 22.12

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	22.16	Prevention and control of water ingress, etc.	If cargo is carried in spaces referred to in regulation 15.5.2, the sidescuttles and their deadlights shall be closed watertight and locked before the cargo is shipped and the time at which such scuttles and deadlights are closed and locked shall be recorded in such log-book as may be prescribed by the Administration.	As per requirement set out for Regulation 22.12
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	23.2	Special requirements for ro-ro passenger ships	Documented operating procedures for closing and securing all shell doors, loading doors and other closing appliances which, if left open or not properly secured, could, in the opinion of the Administration, lead to flooding of a special category space or ro-ro space, shall be kept on board and posted at an appropriate place.	As per requirement set out for Regulation 22.12
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	23.6	Special requirements for ro-ro passenger ships	Notwithstanding the requirements of paragraph 3, the Administration may permit some accesses to be opened during the voyage, but only for a period sufficient to permit through passage and, if required, for the essential working of the ship.	As per requirement set out for Regulation 22.12
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	23.8	Special requirements for ro-ro passenger ships	Notwithstanding the requirements of paragraph 7, the Administration may permit some accesses within such bulkheads to be opened during the voyage but only for sufficient time to permit through passage and, if required, for the essential working of the ship.	As per requirement set out for Regulation 22.12

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	24.2	Additional requirements for prevention and control of water ingress, etc. in cargo ships	Notwithstanding the requirements of paragraph 3, the Administration may authorize that particular doors may be opened at the discretion of the master, if necessary for the operation of the ship and provided that the safety of the ship is not impaired.	Authorization for permitting particular doors to be opened during navigation at the discretion of the master on cargo ships will only be granted by the GMA after due consideration has been given to the overall safety of the ship and will be dealt with ona case-by-case basis as part of the stability approval process.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	24.3	Additional requirements for prevention and control of water ingress, etc. in cargo ships	Watertight doors or ramps fitted to internally subdivide large cargo spaces shall be closed before the voyage commences and shall be kept closed during navigation. The time at which such doors are opened or closed shall be recorded in such log-book as may be prescribed by the Administration.	Entries shall be made in the official log book recording the following: (a) the times of the closing and next opening of the watertight and weathertight doors referred to within the regulation, and; (b) The times of the opening and closing of any watertight or weathertight doors.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	25.3	Water level detectors on single hold cargo ships other than bulk carriers	The water level detectors required by paragraph 2 shall: .1 give an audible and visual alarm at the navigation bridge when the water level above the inner bottom in the cargo hold reaches a height of not less than 0.3 m, and another when such level reaches not more than 15% of the mean depth of the cargo hold; and .2 be fitted at the aft end of the hold, or above its lowest part where the inner bottom is not parallel to the designed waterline. Where webs or partial watertight bulkheads are fitted above the inner bottom, Administrations may require the fitting of additional detectors.	The need for fitting additional detectors will be discussed and agreed by the MCA and the operators on a case-by-case basis as part of the damage stability approval process.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	26.6	MACHINERY INSTALLATIONS - General	Main propulsion machinery and all auxiliary machinery essential to the propulsion and the safety of the ship shall, as fitted in the ship, be designed to operate when the ship is upright and when inclined at any angle of list up to and including 15 ˚either way under static conditions and 22.5 ˚under dynamic conditions(rolling) either way and simultaneously inclined dynamically(pitching) 7.5 ˚by bow or stern. The Administration may permit deviation from these angles, taking into consideration the type, size and service conditions of the ship.	The Recognised Organisation may permit a reduction in these angles taking into consideration the type, size and service conditions of the ship. Where it can be shown that the overall safety of the ship will not be impaired, deviation from the aforesaid angles may be permitted, taking into account the type, size and service conditions.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	27.5	Machinery	Main turbine propulsion machinery and, where applicable, main internal combustion propulsion machinery and auxiliary machinery shall be provided with automatic shut-off arrangements in the case of failures such as lubricating oil supply failure which could lead rapidly to complete breakdown, serious damage or explosion. The Administration may permit provisions for overriding automatic shutoff devices.	To consider MSC.1/Circ.1345 - Unified Interpretation of SOLAS Regulation II-1/27.5. The consequences of overriding automatic shut-off arrangements should be established and documented.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	29.1	Steering Gear	Unless expressly provided otherwise, every ship shall be provided with a main steering gear and an auxiliary steering gear to the satisfaction of the Administration. The main steering gear and the auxiliary steering gear shall be so arranged that the failure of one of them will not render the other one inoperative.	See IACS UI SC242 Rev2 https://www.iacs.org.uk/publications/unified-interpretations/ui-sc/ui-sc242-rev2-cln/ For a ship fitted with multiple steering propulsion units, such as but not limited to azimuthing propulsors or water jet propulsion systems, each of the steering-propulsion units should be provided with a main steering gear and an auxiliary steering gear, or with two or more identical steering actuating systems in accordance with interpretation of SOLAS II-1/29.6.1. The main steering gear and the auxiliary steering gear shall be so arranged that the failure of one of them will not render the other one inoperative. For a ship fitted with a single steering-propulsion unit, the requirement in SOLAS II-1/29.1 is considered satisfied if the steering gear is provided with two or more steering actuating systems and is in compliance with interpretation of SOLAS II- 1/29.6.1. A detailed risk assessment is to be submitted in order to demonstrate that in the case of any single failure in the steering gear, control system or power supply the ship steering is maintained.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	29.2.1	Steering Gear	All the steering gear components and the rudder stock shall be of sound and reliable construction to the satisfaction of the Administration. Special consideration shall be given to the suitability of any essential component which is not duplicated. Any such essential component shall, where appropriate, utilize antifriction bearings such as ball- bearings, roller-bearings or sleeve- bearings which shall be permanently lubricated or provided with lubrication fittings.	See MSC.1/Circ.1416/Rev.1 and IACS UI SC242 Rev2 https://www.iacs.org.uk/publications/unified-interpretations/ui-sc/ui-sc242-rev2-cln/ All components used in steering arrangements for ship directional control are to be of sound reliable construction to the satisfaction of the Administration or recognized organizations acting on its behalf. Special consideration shall be given to the suitability of any essential component which is not duplicated. Any such essential component shall, where appropriate, utilize anti-friction bearings such as ball bearings, roller bearings or sleeve bearings which shall be permanently lubricated or provided with lubrication fittings.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	29.2.2	Steering Gear	The design pressure for calculations to determine the scantlings of piping and other steering gear components subjected to internal hydraulic pressure shall be at least 1.25 times the maximum working pressure to be expected under the operational conditions specified in paragraph 3.2, taking into account any pressure which may exist in the low pressure side of the system. At the discretion of the Administration, fatigue criteria shall be applied for the design of piping and components, taking into account pulsating pressures due to dynamic loads.	See IASC UR M42 Rev4: https://www.iacs.org.uk/publications/unified-requirements/ur-m/ur-m42-rev4-cln/ Where paragraph 7 states: The dynamic loading to be assumed in the fatigue and fracturing mechanics analysis considering Regulation 29.2.2 and 29.17.1 and related Guidelines, will be established at the discretion of the Classification Society. Both cases of high cycle and cumulative fatigue are to be considered.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	29.6.3	Steering Gear	Steering gears, other than of the hydraulic type, shall achieve standards equivalent to the requirements of this paragraph to the satisfaction of the Administration.	GMA to apply MSC.1/Circ.1416/Rev.1

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	30.4	Additional requirements for electric and electrohydraulic steering gear	When in a ship of less than 1,600 tons gross tonnage an auxiliary steering gear which is required by Regulation 29.4.3 to be operated by power is not electrically powered or is powered by an electric motor primarily intended for other services, the main steering gear may be fed by one circuit from the main switchboard. Where such an electric motor primarily intended for other services is arranged to power such an auxiliary steering gear, the requirement of paragraph 3 may be waived by the Administration if satisfied with the protection arrangement together with the requirements of Regulation 29.5.1 and .2 and 29.7.3 applicable to auxiliary steering gear	The waiver may only be granted where the GMA is satisfied with the protection arrangement, together the requirements of SOLAS Chapter II-1 regulations 29.5.1 and .2 and 29.7.3 applicable to auxiliary steering gear.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	32.1	Steam boilers and boiler feed systems	Every steam boiler and every unfired steam generator shall be provided with not less than two safety valves of adequate capacity. However, having regard to the output or any other features of any boiler or unfired steam generator, the Administration may permit only one safety valve to be fitted if it is satisfied that adequate protection against overpressure is thereby provided.	See MSC.1/Circ.1286 - Unified Interpretation of SOLAS regulation II-1/32.1.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	35-1.2.6	Bilge pumping arrangements	Provision shall be made for the drainage of enclosed cargo spaces situated on the bulkhead deck of a passenger ship and on the freeboard deck of a cargo ship, provided that the Administration may permit the means of drainage to be dispensed with in any particular compartment of any ship or class of ship if it is satisfied that by reason of size or internal subdivision of those spaces the safety of the ship is not thereby impaired. For ships subject to the provisions of regulation II-1/1.1.1.1, for the special hazards associated with loss of stability when fitted with fixed pressure water-spraying fire-extinguishing systems refer to regulation II-2/20.6.1.4	Proposals for dispensing with the means of draining any particular compartment will be considered by the MCA and agreed with the operators on a case-by-case basis as part of the damage stability approval process.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	35-1.3.1	Bilge pumping arrangements (Passenger Ships)	The bilge pumping system required by paragraph 2.1 shall be capable of operation under all practicable conditions after a casualty whether the ship is upright or listed. For this purpose wing suctions shall generally be fitted except in narrow compartments at the end of the ship where one suction may be sufficient. In compartments of unusual form, additional suctions may be required. Arrangements shall be made whereby water in the compartment may find its way to the suction pipes. Where, for particular compartments, the Administration is satisfied that the provision of drainage may be undesirable, it may allow such provision to be dispensed with if calculations made in accordance with the conditions laid down in regulations 7 and 8 show that the survival capability of the ship will not be impaired.	Dispensation from the need to fit arrangements to facilitate the drainage of water to the suction pipes in a given compartment will be considered by the GMA and agreed with the operators on a case-by-case basis as part of the damage stability approval process, ensuring that the survival capability of the ship is not impaired if such drainage is not fitted.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	35-1.3.6	Bilge pumping arrangements (Passenger Ships)	Each power bilge pump shall be capable of pumping water through the required main bilge pipe at a speed of not less than 2 m/s. Independent power bilge pumps situated in machinery spaces shall have direct suctions from these spaces, except that not more than two such suctions shall be required in any one space. Where two or more such suctions are provided, there shall be at least one on each side of the ship. The Administration may require independent power bilge pumps situated in other spaces to have separate direct suctions. Direct suctions shall be suitably arranged and those in a machinery space shall be of a diameter not less than that required for the bilge main.	The bilge pumping arrangements for each ship will be considered and approved on a case-by-case basis for compliance. In particular, the provision of direct suctions for independent power bilge pumps situated in spaces other than machinery spaces will be discussed with the owners/designers and agreement reached on a case-by-case basis as part of the approval process.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	35-1.3.9	Bilge pumping arrangements (Passenger Ships)	The diameter d of the bilge main shall be calculated according to the following formula. However, the actual internal diameter of the bilge main may be rounded off to the nearest standard size acceptable to the Administration: $d = 25 + 1.68\sqrt{L(B+D)}$ where: *d* is the internal diameter of the bilge main (millimetres); *L* and *B* are the length and the breadth of the ship (metres) as defined in regulation 2; and *D* is the moulded depth of the ship to the bulkhead deck (metres) provided that, in a ship having an enclosed cargo space on the bulkhead deck which is internally drained in accordance with the requirements of paragraph 2.6.2 and which extends for the full length of the ship, *D* shall be measured to the next deck above the bulkhead deck. Where the enclosed cargo spaces cover a lesser length, *D* shall be taken as the moulded depth to the bulkhead deck plus *lh*/*L* where *l* and *h* are the aggregate length and height respectively of the enclosed cargo spaces (metres). The diameter of the bilge branch pipes shall meet the requirements of the Administration.	In every ship the internal diameter of main and branch bilge suction pipes shall be determined to the nearest size calculated according to the following formulae – dm = 25 + [1.68 √ L(B + D)] db = 25 + [2.15 √ l(B + D)] dm is the internal diameter of the main bilge suction pipes in millimetres. db is the internal diameter of the branch bilge suction pipes in millimetres. L is the length of ship in metres measured between perpendiculars taken at extremities of the deepest subdivision load waterline. B is the greatest moulded breadth in metres at or below the ship's deepest subdivision load waterline. D is the moulded depth of ship amidships at the bulkhead deck in metres; provided that, in a ship having an enclosed cargo space on the bulkhead deck which is internally drained in accordance with the requirements of paragraph 8 and which extends for the full length of the ship, D shall be measured to the next deck above the bulkhead deck. Where the enclosed cargo spaces cover a lesser length, D shall be taken as the moulded depth to the bulkhead deck plus lh/L, where l and h are the aggregate length and height respectively of the enclosed cargo space in metres. l is the length of compartment in metres.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	35-1.4	Bilge pumping arrangements (Cargo Ships)	At least two power pumps connected to the main bilge system shall be provided, one of which may be driven by the propulsion machinery. If the Administration is satisfied that the safety of the ship is not impaired, bilge pumping arrangements may be dispensed with in particular compartments.	Dispensation from the need to fit bilge pumping arrangements in a given compartment will be considered by the GMA and agreed with the operators on a case-by-case basis as part of the damage stability approval process, ensuring that the survival capability of the ship is not impaired.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	40.2	Electrical Instalations - General	The Administration shall take appropriate steps to ensure uniformity in the implementation and application of the provisions of this Part in respect of electrical installations	GMA will apply MSC.1/Circ.1464/Rev.1 and consider recommendations published by the International Electrotechnical Commission and, in particular, Publication IEC 60092 - Electrical Installations in Ships. Where special marine type equipment is required and there is no standard for it, it shall be of a type that is acceptable to the RO.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	41.4	Main source of electrical power and lighting systems	Where the total installed electrical power of the main generating sets is in excess of 3 MW, the main busbars shall be subdivided into at least two parts which shall normally be connected by removable links or other approved means; so far as is practicable, the connection of generating sets and any other duplicated equipment shall be equally divided between the parts. Equivalent arrangements may be permitted to the satisfaction of the Administration.	Other approved means can be achieved by: Circuit breaker without tripping mechanism or disconnecting link or switch which bus bars can be split easily and safely. Bolted links, for example bolted bus bar sections, should not be acceptable.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	42.1.3	Emergency Source of Electrical Power in Passenger Ships	The location of the emergency source of electrical power and associated transforming equipment, if any, the transitional source of emergency power, the emergency switchboard and the emergency electric lighting switchboards in relation to the main source of electrical power, associated transforming equipment, if any, and the main switchboard shall be such as to ensure to the satisfaction of the Administration that a fire or other casualty in spaces containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard or in any machinery space of category A will not interfere with the supply, control and distribution of emergency electrical power.	Class to verify during plan appraisal that a fire or other casualty in spaces containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard or in any machinery space of category A will not interfere with the supply, control and distribution of emergency electrical power. To be verified by simulation during vessel commissioning.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	42.2.7	Emergency Source of Electrical Power in Passenger Ships	In a ship engaged regularly on voyages of short duration, the Administration if satisfied that an adequate standard of safety would be attained may accept a lesser period than the 36 h period specified in paragraphs 2.1 to 2.5 but not less than 12 h.	Any waver granted in accordance with SOLAS Chapter II-1 regulation 42.2.3.2 must comply this paragraph of the regulation.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	42.2.3.2	Emergency Source of Electrical Power in Passenger Ships	the shipborne navigational equipment as required by regulation V/12; where such provision is unreasonable or impracticable the Administration may waive this requirement for ships of less than 5,000 tons gross tonnage	In accordance with SOLAS Chapter II-1 regulation 42.2.3.2, in the case of a ship of less than 5,000 gross tonnage, the GMA may waive the requirement to have an emergency source of power capable, for a period of 36 hours, of supplying the shipborne navigational equipment required by SOLAS Chapter V regulation 19. Waiver may only be granted where the GMA is satisfied such provision is unreasonable or impracticable.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	42-1.1	Supplementary emergency lighting for ro-ro passenger ships	All passenger public spaces and alleyways shall be provided with supplementary electric lighting that can operate for at least three hours when all other sources of electric power have failed and under any condition of heel. The illumination provided shall be such that the approach to the means of escape can be readily seen. The source of power for the supplementary lighting shall consist of accumulator batteries located within the lighting units that are continuously charged, where practicable, from the emergency switchboard. Alternatively, any other means of lighting which is at least as effective may be accepted by the Administration. The supplementary lighting shall be such that any failure of the lamp will be immediately apparent. Any accumulator battery provided shall be replaced at intervals having regard to the specified service life in the ambient conditions that they are subject to in service	Other alternative means of lighting may be subject to consideration in special cases.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	43.1.2	Emergency source of electrical power in cargo ships	The emergency source of electrical power, associated transforming equipment, if any, transitional source of emergency power, emergency switchboard and emergency lighting switchboard shall be located above the uppermost continuous deck and shall be readily accessible from the open deck. They shall not be located forward of the collision bulkhead, except where permitted by the Administration in exceptional circumstances.	No exceptional circumstances will be considered to allow the emergency source of electrical power to be placed forward of the collision bulkhead.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	43.1.3	Emergency Source of Electrical Power in Cargo Ships	The location of the emergency source of electrical power, associated transforming equipment, if any, the transitional source of emergency power, the emergency switchboard and the emergency lighting switchboard in relation to the main source of electrical power, associated transforming equipment, if any, and the main switchboard shall be such as to ensure to the satisfaction of the Administration that a fire or other casualty in the space containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard, or in any machinery space of category A will not interfere with the supply, control and distribution of emergency electrical power.	Class to verify during plan appraisal that a fire or other casualty in spaces containing the main source of electrical power, associated transforming equipment, if any, and the main switchboard or in any machinery space of category A will not interfere with the supply, control and distribution of emergency electrical power. To be verified by simulation during vessels commissioning.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	43.2.4.2	Emergency source of electrical power in cargo ships	The shipborne navigational equipment as required by regulation V/12; where such provision is unreasonable or impracticable the Administration may waive this requirement for ships of less than 5,000 tons gross tonnage	In accordance with SOLAS Chapter II-1 regulation 42.2.4.2, in the case of a ship of less than 5,000 gross tonnage, the GMA may waive the requirement to have an emergency source of power capable, for a period of 18 hours, of supplying the shipborne navigational equipment required by SOLAS Chapter V regulation 19. Waiver may only be granted where the GMA is satisfied such provision is unreasonable or impracticable.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	43.2.6.2	Emergency source of electrical power in cargo ships	In a ship engaged regularly in voyages of short duration, the Administration if satisfied that an adequate standard of safety would be attained may accept a lesser period than the 18 h period specified in paragraphs 2.2 to 2.5 but not less than 12 h	Any waiver issued in accordance with SOLAS Chapter II-1 regulation 42.2.4.2 must comply this paragraph of the regulation.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	44.1	Starting arrangements for emergency generating sets	Emergency generating sets shall be capable of being readily started in their cold condition at a temperature of 0°C. If this is impracticable, or if lower temperatures are likely to be encountered, provision acceptable to the Administration shall be made for the maintenance of heating arrangements, to ensure ready starting of the generating sets.	Emergency generating sets are to be capable of being readily started in their cold condition at a temperature of 00C. If this is impracticable, or if lower temperatures are likely to be encountered, heating is to be provided to ensure ready starting of the generating sets.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	44.2	Starting arrangements for emergency generating sets	Each emergency generating set arranged to be automatically started shall be equipped with starting devices approved by the Administration with a stored energy capability of at least three consecutive starts. A second source energy shall be provided for an additional three starts within 30 min unless manual starting can be demonstrated to be affective.	The starting arrangements for emergency generating sets where both the sources of stored energy are accumulator batteries a single common starter motor and associated switch can be accepted. The arrangements should ensure that only one battery at a time can be brought into service. Separate charging arrangements, supplied by the emergency switchboard, should be provided for each battery. A sign should be clearly displayed adjacent to the generating set warning that it is arranged for automatic starting. Where the emergency diesel engine equipped with one electric starting motor and provided with one starting battery, in which case a second starting possibility must be available, such as manual starting (if possible), inertia starter, spring loaded starter or manual-hydraulic starter. Where the emergency diesel engine equipped with a compressed air startingmotor shall be provided with its own starting air vessel inside the emergency generator room that is being kept pressurised by the main engine starting system and provided with a non-return valve located inside the emergency generator room. Unless this system is provided with a manual operated compressor in the emergency generator room, one of the second starting possibilities as required by paragraph above shall be available.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.1.2	Precautions against shock, fire and other hazards of electrical origin	The Administration may require additional precautions for portable electrical equipment for use in confined or exceptionally damp spaces where particular risks due to conductivity may exist.	BS 8450:2006 Annex A to be used as guidance. When electrical lamps, welding equipment, tools or other apparatus are used in confined or damp spaces or spaces with large exposed conductive surfaces, special provision shall be made so far as is practicable, to ensure that the danger of electric shock is reduced to a minimum. Such spaces shall at least include open decks and machinery spaces. General guidance is given in Table 4A and Appendix 2 of the IEE Regulations 1972 and Table 4.1 and Appendix B of the IEE Regulations 1990. Attention is particularly drawn to the recommendation that 24 volts is used for hand lamps. 7.31.3 - It is recognised that the limits of voltage recommended in the relevant Appendices 2 and B of the IEE Regulations 1972 and 1990 respectively are not always practicable for portable and transportable apparatus such as submersible pumps, deck scalers, refrigerated containers etc. In these cases, where 3 phase supplies up to 500 volts may be involved, the additional precautions in 7.31.3.1 and 7.31.3.2 below, or a combination are recommended:-

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.1.2 Continued	Precautions against shock, fire and other hazards of electrical origin	The Administration may require additional precautions for portable electrical equipment for use in confined or exceptionally damp spaces where particular risks due to conductivity may exist.	7.31.3.1 - circuits which monitor the continuity of the earthed connections and automatically disconnect supply on loss of earth continuity. This arrangement will not, however, be effective when Class II apparatus is used; and 7.31.3.2 - each socket outlet or group of socket outlets supplied through a high sensitivity residual current circuit breaker (RCCB) (formerly termed high sensitivity current operated earth leakage circuit breaker). For this method to be fully effective the supply must be earthed at one point. In ships with unearthed systems double wound isolating transformers with one point of the secondary winding solidly earthed should be used. Particular attention is drawn to the need to select an RCCB which is resistant to the marine environment, e.g. vibration, salt atmosphere etc.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.2	Precautions against shock, fire and other hazards of electrical origin	Main and emergency switchboards shall be so arranged as to give easy access as may be needed to apparatus and equipment, without danger to personnel. The sides and the rear and, where necessary, the front of switchboards shall be suitably guarded. Exposed live parts having voltages to earth exceeding a voltage to be specified by the Administration shall not be installed on the front of such switchboards. Where necessary, nonconducting mats or gratings shall be provided at the front and rear of the switchboard.	No exposed parts which may have a voltage between conductors or to earth exceeding 250 volts direct current or 50 volts RMS ac shall be installed on the face of any switchboard or control panel.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.3.2	Precautions against shock, fire and other hazards of electrical origin	The requirement of paragraph 3.1 does not preclude under conditions approved by the Administration the use of: .1 impressed current cathodic protective systems; .2 limited and locally earthed systems;or .3 insulation level monitoring devices provided the circulation current does not exceed 30 mA under the most unfavourable conditions.	In cargo ships, limited and locally earthed systems are not precluded provided that, in the case of ships constructed on or after 1st October 1994, any possible resulting current does not flow directly through hazardous areas.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.3.3	Precautions against shock, fire and other hazards of electrical origin	Where the hull return system is used, all final subcircuits, i.e. all circuits fitted after the last protective device, shall be two-wire and special precautions shall be taken to the satisfaction of the Administration.	UISC SC8 – IACS Interpretations of SOLAS to be used also as guidance.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.5.1	Precautions against shock, fire and other hazards of electrical origin	Except as permitted by the Administration in exceptional circumstances, all metal sheaths and armour of cables shall be electrically continuous and shall be earthed.	Cables shall be installed and supported in such a manner as to avoid chafing and other damage. All metal sheaths and metal armour of electric cables shall be electrically continuous and shall be earthed except that the Certifying Authority may permit such earthing to be omitted for particular purposes.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.5.2	Precautions against shock, fire and other hazards of electrical origin	All electric cables and wiring external to equipment shall be at least of a flame-retardant type and shall be so installed as not to impair their original flame-retarding properties. Where necessary for particular applications the Administration may permit the use of special types of cables such as radio frequency cables, which do not comply with the foregoing.	The Certifying Authority may permit installation of cables which do not comply with the foregoing for particular purposes, such as radio frequency cables, where compliance would be impracticable.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.5.3	Precautions against shock, fire and other hazards of electrical origin	Cables and wiring serving essential or emergency power, lighting, internal communications or signals shall so far as practicable be routed clear of galleys, laundries, machinery spaces of category A and their casings and other high fire risk areas. In ro-ro passenger ship, cabling for emergency alarms and public address systems installed on or after 1 July 1998 shall be approved by the Administration having regard to the recommendations developed by the Organization. Cables connecting fire pumps to the emergency switchboard shall be of a fire-resistant type where they pass through high fire risk areas. Where practicable all such cables should be run in such a manner as to preclude their being rendered unserviceable by heating of the bulkheads that may be caused by a fire in an adjacent space.	See MSC/Circ.808 - Recommendation on performance standards for public address systems on passenger ships, including cabling.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.5.4	Precautions against shock, fire and other hazards of electrical origin	Where cables which are installed in hazardous areas introduce the risk of fire or explosion in the event of an electrical fault in such areas, special precautions against such risks shall be taken to the satisfaction of the Administration	UISC SC12– IACS Interpretations of SOLAS to be used also as guidance: Cables passing through any hazardous areas or serving electrical equipment in such areas shall - (a) be appropriate having regard to the dusts, gases or vapours to which they may be subjected; and (b) unless they form part of intrinsically safe circuits be enclosed in a gas-tight steel conduit or include a metallic sheath braid or wire armour for earth leakage detection or be protected in some other satisfactory manner. Additional protection against mechanical damage shall be provided in locations where such damage may occur.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.6.1	Precautions against shock, fire and other hazards of electrical origin	Each separate circuit shall be protected against short circuit and against overload, except as permitted in regulations 29 and 30 or where the Administration may exceptionally otherwise permit.	UISC SC13 – IACS Interpretations of SOLAS to be used as guidance: Each separate electrical circuit, other than a circuit which operates the ship's steering gear shall, unless it is permitted otherwise, be protected against overload.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.9.3	Precautions against shock, fire and other hazards of electrical origin	Accumulator batteries shall not be located in sleeping quarters except where hermetically sealed to the satisfaction of the Administration.	Accumulator batteries shall not be installed in sleeping accommodation spaces.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.10	Precautions against shock, fire and other hazards of electrical origin	No electrical equipment shall be installed in any space where flammable mixtures are liable to collect, e.g. in compartments assigned principally to accumulator batteries, in paint lockers, acetylene stores or similar spaces, unless the Administration is satisfied that such equipment is: .1 essential for operational purposes; .2 of a type which will not ignite the mixture concerned; .3 appropriate to the space concerned; and .4 appropriately certified for safe usage in the dusts, vapours or gases likely to be encountered.	PASSENGER SHIPS (i) Electrical equipment and cables shall not be installed in enclosed cargo spaces, special category spaces or open ro-ro cargo spaces intended for the carriage of dangerous goods which are flammable liquids with a flash point below 23°C (Closed Cup Test) or flammable gases unless the Secretary of State considers the location therein essential. (ii) If permitted, any electrical equipment installed in such spaces shall be certified for, and cables shall be appropriate for, use with the flammable dusts, gases or vapours to which it may be exposed. (iii) Cable penetrations of the decks and bulkheads of such spaces shall be sealed against the passage of gas or vapour. (iv) Electrical equipment and cables which do not comply with the foregoing for particular applications may be installed, provided such equipment and cables are capable of being electrically isolated by the removal of links or the operation of lockable switches. operational or safety purposes; (b) of a type that is certified for use in the flammable dusts, gases or vapours to which it may be subjected; and (c) appropriate to the space concerned.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.10 Continued	Precautions against shock, fire and other hazards of electrical origin	No electrical equipment shall be installed in any space where flammable mixtures are liable to collect, e.g. in compartments assigned principally to accumulator batteries, in paint lockers, acetylene stores or similar spaces, unless the Administration is satisfied that such equipment is: .1 essential for operational purposes; .2 of a type which will not ignite the mixture concerned; .3 appropriate to the space concerned; and .4 appropriately certified for safe usage in the dusts, vapours or gases likely to be encountered.	CARGO SHIPS Electrical equipment shall not be installed in any hazardous area unless the Certifying Authority is satisfied that such equipment is - (a) essential for operational or safety purposes; (b) of a type that is certified for use in the flammable dusts, gases or vapours to which it may be subjected; and (c) appropriate to the space concerned.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	45.11	Precautions against shock, fire and other hazards of electrical origin	In tankers, electrical equipment, cables and wiring shall not be installed in hazardous locations unless it conforms with standards not inferior to those acceptable to the Organization. However, for locations not covered by such standards, electrical equipment, cables and wiring which do not conform to the standards may be installed in hazardous locations based on a risk assessment to the satisfaction of the Administration, to ensure that an equivalent level of safety is assured.	UISC SC274– IACS Interpretations of SOLAS to be used as guidance. See MSC.1/Circ.1557 - Hazardous Area Classification (Application of SOLAS Regulation II- 1/45.11) Refer also to the standards published by the International Electrotechnical Commission, IEC 60092-502:1999 "Electrical installations in ships - Tankers"

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	46.2	Additional Requirements for Periodically Unattended Machinery Spaces - General	Measures shall be taken to the satisfaction of the Administration to ensure that the equipment is functioning in a reliable manner and that satisfactory arrangements are made for regular inspections and routine tests to ensure continuous reliable operation.	• Class survey & maintenance requirements. • Suitable PMS: Elements relating to UMS operation (including stand-by systems) must be specifically part of PMS / ISM. Frequency of inspection and test may be guided by OEM or standard vessel / industry practice. • Follow regular engine
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	46.3	Additional Requirements for Periodically Unattended Machinery Spaces - General	Every ship shall be provided with documentary evidence, to the satisfaction of the Administration, of its fitness to operate with periodically unattended machinery spaces.	Appropriate class notation on the certificate of class or equivalent letter issued by GMA to the effect.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	47.1	Fire precautions	Means shall be provided to detect and give alarms at an early stage in case of fires: .1 in boiler air supply casings and exhausts (uptakes); and .2 in scavenging air belts of propulsion machinery, unless the Administration considers this to be unnecessary in a particular case.	Consider the requirement to be absolute on vessel fitted / operating with unmanned machinery space. Specific exemption may be considered on its merit.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	49.5	Control of propulsion machinery from the navigating bridge	The design of the remote automatic control system shall be such that in case of its failure an alarm will be given. Unless the Administration considers it impracticable, the present speed and direction of thrust of the propeller shall be maintained until local control is in operation.	See Reg 31.2.7 Alternative equivalent arrangement may be considered.

II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	51.1.2	Alarm system	An alarm system shall be provided indicating any fault requiring attention and shall: have a connexion to the engineers' public rooms and to each of the engineers' cabins through a selector switch, to ensure connexion to at least one of those cabins. Administrations may permit equivalent arrangements.	Alternative equivalent arrangement may be considered.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	53.1	Special requirements for machinery, boiler and electrical installations	The special requirements for the machinery, boiler and electrical installations shall be to the satisfaction of the Administration and shall include at least the requirements of this Regulation.	Alternative equivalent arrangement may be considered.
II-1 Construction: Structure, Subdivisions and Stability, Machinery and Electrical Installations	53.2.1	Special requirements for machinery, boiler and electrical installations	Where the electrical power can normally be supplied by one generator, suitable load shedding arrangements shall be provided to ensure the integrity of supplies to services required for propulsion and steering as well as the safety of the ship. In the case of loss of the generator in operation, adequate provisions shall be made for automatic starting and connecting to the main switchboard of a stand-by generator of sufficient capacity to permit propulsion and steering and to ensure the safety of the ship with automatic re-starting of the essential auxiliaries including, where necessary, sequential operations. The Administration may dispense with this requirement for a ship of less than 1,600 tons gross tonnage, if it is considered impracticable.	Alternative equivalent arrangement may be considered.

SOLAS Chapter II-2				
II-2 Construction: Fire Protection, Fire Detection an Fire Extinction	1.6.2.2	Application	The type of foam concentrates for use in chemical tankers shall be to the satisfaction of the Administration, taking into account the guidelines developed by the Organization;	Apply IMO MSC.1/Circ.1312 and Corr.1
II-2 Construction: Fire Protection, Fire Detection an Fire Extinction	1.6.6	Application	Chemical tankers and gas carriers shall comply with the requirements for tankers, except where alternative and supplementary arrangements are provided to the satisfaction of the Administration, having due regard to the provisions of the International Bulk Chemical Code and the International Gas Carrier Code, as appropriate	Alternative equivalent arrangement may be considered.

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	4.2.2.5.1	Probability of Ignition	Oil fuel pipes and their valves and fittings shall be of steel or other approved material, except that restricted use of flexible pipes shall be permissible in positions where the Administration is satisfied that they are necessary. Such flexible pipes and end attachments shall be of approved fire-resisting materials of adequate strength and shall be constructed to the satisfaction of the Administration. For valves fitted to oil fuel tanks and under static pressure, steel or spheroidal- graphite cast iron may be accepted. However, ordinary cast iron valves may be used in piping systems where the design pressure is lower than 7 bar and the design temperature is below 60°C.	If flexible oil fuel pipes may be considered providing it can be demonstrated they are strictly necessary, and the following criteria have been met: Flexible pipes and end attachments must be of approved fire-resisting materials in accordance with ISO15540:1999, Fire resistance of hose assemblies - test methods and ISO15541:1999, Fire resistance of hose assemblies - requirements for the test bench. Flexible hoses: a) must not be used in high pressure fuel injection systems; b) must be installed and replaced in accordance with the manufacturer's instructions; c) must allow sufficient free movement to be provided to accommodate vibration and avoid contact
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	4.5.1.4.4	Probability of Ignition	Where cargo wing tanks are provided, cargo oil lines below deck shall be installed inside these tanks. However, the Administration may permit cargo oil lines to be placed in special ducts provided there are capable of being adequately cleaned and ventilated to the satisfaction of the Administration. Where cargo wing tanks are not provided, cargo oil lines below deck shall be placed in special ducts.	Cargo oil lines placed in special ducts may be considered on a case by case basis provided it can be demonstrated that these are capable of being adequately cleaned and ventilated.

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	4.5.3.3	Probability of Ignition	The arrangements for inerting, purging or gas-freeing of empty tanks as required in paragraph 5.5.3.1 shall be to the satisfaction of the Administration and shall be such that the accumulation of hydrocarbon vapours in pockets formed by the internal structural members in a tank is minimized and that: .1 on individual cargo tanks, the gas outlet pipe, if fitted, shall be positioned as far as practicable from the inert gas/air inlet and in accordance with paragraph 5.3 and regulation 11.6. The inlet of such outlet pipes may be located either at deck level or at not more than 1 m above the bottom of the tank; .2 the cross-sectional area of such gas outlet pipe referred to in paragraph 5.6.3.1 shall be such that an exit velocity of at least 20 m/s can be maintained when any three tanks are being simultaneously supplied with inert gas. Their outlets shall extend not less than 2 m above deck level; and .3 each gas outlet referred to in paragraph 5.6.3.2 shall be fitted with suitable blanking arrangements.	IACS UI SC 58 (as amended) to be used as guidance
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	5.2.2.5	Fire Growth Potential	In passenger ships, the controls required in paragraphs 2.2.1 to 2.2.4 and in regulations 8.3.3 and 9.5.2.3 and the controls for any required fire-extinguishing system shall be situated at one control position or grouped in as few positions as possible to the satisfaction of the Administration. Such positions shall have a safe access from the open deck.	Consideration on a case by case basis may be given to the positioning of controls for fire-extinguishing systems at more than one location, and subject to having access from the open deck.

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	7.3.2	Detection and Alarm	The function of fixed fire detection and fire alarm systems shall be periodically tested to the satisfaction of the Administration by means of equipment producing hot air at the appropriate temperature, or smoke or aerosol particles having the appropriate range of density or particle size, or other phenomena associated with incipient fires to which the detector is designed to respond.	Equipment to be used for the testing of fire detection and alarm systems, are to be in accordance with manufacturers instructions and recomendadtions.
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	7.6	Detection and Alarm	Protection of cargo spaces in passenger ships A fixed fire detection and fire alarm system or a sample extraction smoke detection system shall be provided in any cargo space which, in the opinion of the Administration, is not accessible, except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement.	Consideration may be given on a case by case basis to alarms and detection systems installed in non-accesible spaces for passenger ships engaged on voyages of short duration
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	8.3.4	Control of smoke spread	In passenger ships, the controls required by paragraph 3.3 shall be situated at one control position or grouped in as few positions as possible to the satisfaction of the Administration. Such positions shall have a safe access from the open deck.	Consideration on a case by case basis may be given to the positioning of controls for fire-extinguishing systems at more than one location, and subject to having access from the open deck.

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	9.2.2.3.1	Containment of fire	In addition to complying with the specific provisions for fire integrity of bulkheads and decks of passenger ships, the minimum fire integrity of all bulkheads and decks shall be as prescribed in tables 9.1 and 9.2. Where, due to any particular structural arrangements in the ship, difficulty is experienced in determining from the tables the minimum fire integrity value of any divisions, such values shall be determined to the satisfaction of the Administration.	Consideration may be given on a case by case basis to fire integrity values relating to bulkheads and decks where it can be demonstrated that difficulties exist due to a particular structural arrangement for determining values from tables.
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	9.2.2.4.4	Containment of fire	External boundaries which are required in regulation 11.2 to be of steel or other equivalent material may be pierced for the fitting of windows and sidescuttles provided that there is no requirement for such boundaries of passenger ships to have "A" class integrity. Similarly, in such boundaries which are not required to have "A" class integrity, doors may be constructed of materials which are to the satisfaction of the Administration.	Substantially constructed, non- combustible or hardwood doors. This does not obviate the need to comply with any Load Line requirements for doors.
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	9.2.3.3.4	Containment of fire	External boundaries which are required in regulation 11.2 to be of steel or other equivalent material may be pierced for the fitting of windows and sidescuttles provided that there is no requirement for such boundaries of cargo ships to have "A" class integrity. Similarly, in such boundaries which are not required to have "A" class integrity, doors may be constructed of materials which are to the satisfaction of the Administration.	Substantially constructed, non- combustible or hardwood doors. This does not obviate the need to comply with any Load Line requirements for doors.

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	9.2.4.2.4	Containment of fire	External boundaries which are required in regulation 11.2 to be of steel or other equivalent material may be pierced for the fitting of windows and sidescuttles provided that there is no requirement for such boundaries of tankers to have "A" class integrity. Similarly, in such boundaries which are not required to have "A" class integrity, doors may be constructed of materials which are to the satisfaction of the Administration.	Substantially constructed, non- combustible or hardwood doors. This does not obviate the need to comply with any Load Line requirements for doors.
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	9.5.2.4	Containment of fire	In passenger ships, the means of control required in paragraph 5.2.3 shall be situated at one control position or grouped in as few positions as possible to the satisfaction of the Administration. Such positions shall have safe access from the open deck.	Consideration on a case by case basis may be given to the positioning of controls for fire-extinguishing systems at more than one location, and subject to having access from the open deck.
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	10.2.1.2.2.2.1	Firefighting	Ready availability of water supply The arrangements for the ready availability of water supply shall be: .2 in cargo ships: .2.1 to the satisfaction of the Administration	Automatic start of at least one fire pump or by remote starting from a continually manned control station.
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	10.2.3.2.1	Firefighting	Ships shall be provided with fire hoses the number and diameter of which shall be to the satisfaction of the Administration.	The number of hoses to be as per II-2/10.2.3.2.3 Fire hoses to have diameter not be less than 38mmm and must be sized to deliver the required capacity and pressure

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	10.3.2.1	Firefighting	Accommodation spaces, service spaces and control stations shall be provided with portable fire extinguishers of appropriate types and in sufficient number to the satisfaction of the Administration. Ships of 1,000 gross tonnage and upwards shall carry at least five portable fire extinguishers.	Apply IMO MSC.1/Circ. 1275 (as amended)
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	10.7.1.2	Firefighting	Where it is shown to the satisfaction of the Administration that a passenger ship is engaged on voyages of such short duration that it would be unreasonable to apply the requirements of paragraph 7.1.1 and also in ships of less than 1,000 gross tonnage, the arrangements in cargo spaces shall be to the satisfaction of the Administration, provided that the ship is fitted with steel hatch covers and effective means of closing all ventilators and other openings leading to the cargo spaces.	The GMA will not waive the requirement
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	10.7.3.2.4		The operational performance of each mobile water monitor shall be tested during initial survey on board the ship to the satisfaction of the Administration. The test shall verify that: .1 the mobile water monitor can be securely fixed to the ship structure ensuring safe and effective operation; and .2 the mobile water monitor jet reaches the top tier of containers with all required monitors and water jets from fire hoses operated simultaneously.	Requirements stated within 10.7.3.2.4.1 & .2 shall be met

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	13.3.1.4	Means of escape	If a radiotelegraph station has no direct access to the open deck, two means of escape from or access to, the station shall be provided, one of which may be a porthole or window of sufficient size or other means to the satisfaction of the Administration.	Clear opening to be no less than 600mm x 600mm

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	13.3.2.6.2	Means of escape	Escape doors from public spaces that are normally latched shall be fitted with a means of quick release. Such means shall consist of a door-latching mechanism incorporating a device that releases the latch upon the application of a force in the direction of escape flow. Quick release mechanisms shall be designed and installed to the satisfaction of the Administration and, in particular: .1 consist of bars or panels, the actuating portion of which extends across at least one half of the width of the door leaf, at least 760 mm and not more than 1120 mm above the deck; .2 cause the latch to release when a force not exceeding 67 N is applied; and .3 not be equipped with any locking device, set screw or other arrangement that prevents the release of the latch when pressure is applied to the releasing device.	Requirements stated in Reg. 13.3.2.6.2.1 to.3 to be met as well as single action release.

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	13.5.1	Means of Escape	In special category and open ro-ro spaces to which any passengers carried can have access, the number and locations of the means of escape both below and above the bulkhead deck shall be to the satisfaction of the Administration and, in general, the safety of access to the embarkation deck shall be at least equivalent to that provided for under paragraphs 3.2.1.1, 3.2.2, 3.2.4.1 and 3.2.4.2. Such spaces shall be provided with designated walkways to the means of escape with a breadth of at least 600 mm. The parking arrangements for the vehicles shall maintain the walkways clear at all times.	GMA will determine this on a case by case basis.
II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	19.3.1.2	Carriage of Dangerous Goods	The quantity of water delivered shall be capable of supplying four nozzles of a size and at pressures as specified in regulation 10.2, capable of being trained on any part of the cargo space when empty. This amount of water may be applied by equivalent means to the satisfaction of the Administration.	GMA will determine equivalent means on a case by case basis. IACS UI SC168 Rev.1 relating to the hydrants is recognised

II-2 Construction: Fire Protection, Fire Detection and Fire Extinction	20.4.1	Protection of Vehicle, Special Category and Ro-Ro Spaces	Fixed fire detection and fire alarm systems Except as provided in paragraph 4.3.1, there shall be provided a fixed fire detection and fire alarm system complying with the requirements of the Fire Safety Systems Code. The fixed fire detection system shall be capable of rapidly detecting the onset of fire. The type of detectors and their spacing and location shall be to the satisfaction of the Administration, taking into account the effects of ventilation and other relevant factors. After being installed, the system shall be tested under normal ventilation conditions and shall give an overall response time to the satisfaction of the Administration.	GMA will determine this on a case by case basis.
III Life-Saving Appliances	4.2.2	Evaluation, Testing and Approval of Life- Saving Appliances and Arrangements	Before giving approval to life-saving appliances and arrangements, the Administration shall ensure that such life-saving appliances and arrangements: .2 have successfully undergone, to the satisfaction of the Administration, tests which are substantially equivalent to those specified in those recommendations.	GMA will determine this on a case by case basis. GMA does not undertake type approvals.
III Life-Saving Appliances	4.6	Evaluation, Testing and Approval of Life- Saving Appliances and Arrangements	Life-saving appliances required by this chapter for which detailed specifications are not included in the Code shall be to the satisfaction of the Administration.	GMA will determine this on a case by case basis. GMA does not undertake type approvals.

III Life-Saving Appliances	7.2.2	Personal Life-Saving Appliances	Lifejackets shall be so placed as to be readily accessible and their position shall be plainly indicated. Where, due to the particular arrangements of the ship, the lifejackets provided in compliance with the requirements of paragraph 2.1 may become inaccessible, alternative provisions shall be made to the satisfaction of the Administration which may include an increase in the number of lifejackets to be carried.	GMA will determine this on a case by case basis.
IV Radiocommunications	16.1	Radio Personnel	Every ship shall carry personnel qualified for distress and safety radiocommunication purposes to the satisfaction of the Administration. The personnel shall be holders of certificates specified in the Radio Regulations as appropriate, any one of whom shall be designated to have primary responsibility for radiocommunications during distress incidents.	Refererence should be made to the GMA issued Minimum Safe Manning Document for the vessel.
IV Radiocommunications	17	Radio Records	A record shall be kept, to the satisfaction of the Administration and as required by the Radio Regulations, of all incidents connected with the radiocommunication service which appear to be of importance to safety of life at sea.	A UK MCA 'GMDSS Radio Logbook' to be carried, or any other Radio Logbook compliant with the International Telecommunication Union (ITU) specified format.

V Safety of Navigation	23.3.3.3	Pilot Transfer Arrangements	Safe and convenient access to, and egress from, the ship shall be provided by either: .3 each step rests firmly against the ship's side; where constructional features, such as rubbing bands, would prevent the implementation of this provision, special arrangements shall, to the satisfaction of the Administration, be made to ensure that persons are able to embark and disembark safely;	Any special arrangements should be subject to a 'mock-up' and final practical demonstration in the presence of Class before the vessel enters service
VI CARRIAGE OF CARGOES AND OIL FUELS	3	Oxygen Analysis and Gas Detection Equipment	1 When transporting a solid bulk cargo which is liable to emit a toxic or flammable gas, or cause oxygen depletion in the cargo space, an appropriate instrument for measuring the concentration of gas or oxygen in the air shall be provided together with detailed instructions for its use. Such an instrument shall be to the satisfaction of the Administration. 2 The Administration shall take steps to ensure that crews of ships are trained in the use of such instruments.	Atmosphere testing instrument for enclosed spaces as per VI-1 Reg.7 subject to risk of harm from toxic gas being mitigated by another appropriate instrument. Appropiate procedures for familiarisation and traing on the use of atmospheric testing equipment must be incorporated within the Safety Management System (SMS)
VI CARRIAGE OF CARGOES AND OIL FUELS Part B - Special Provisions for solid bulk cargoes	6.1	Acceptability for Shipment	Prior to loading a solid bulk cargo, the master shall be in possession of comprehensive information on the ship's stability and on the distribution of cargo for the standard loading conditions. The method of providing such information shall be to the satisfaction of the Administration.	Refer to SOLASII-1/5–1 on Stability information to be supplied to the master.

VIII Nuclear Ships	4	Approval of Reactor Installation	The design, construction and standards of inspection and assembly of the reactor installation shall be subject to the approval and satisfaction of the Administration and shall take account of the limitations which will be imposed on surveys by the presence of radiation.	GMA does not currently register Nuclear Ships

MARPOL Annex I				
Annex/Chapter	**Reg.**	**Reg Title**	**Paragraph Text**	**GMA Requirements**
Annex I Chapter III Requirements for Machinery Spaces of All Ships (Part A: Construction)	14.3	Oil Filtering Equipment	Ships, such as hotel ships, storage vessels, etc., which are stationary except for non-cargo-carrying relocation voyages need not be provided with oil filtering equipment. Such ships shall be provided with a holding tank having a volume adequate, to the satisfaction of the Administration, for the total retention on board of the oily bilge water. All oily bilge water shall be retained on board for subsequent discharge to reception facilities.	GMA will determine this on a case by case basis.
Annex I Chapter III Requirements for Machinery Spaces of All Ships (Part A: Construction)	14.5.3.1	Oil Filtering Equipment	The Administration may waive the requirements of paragraphs 1 and 2 of this regulation for: .3.1 The ship is fitted with a holding tank having a volume adequate, to the satisfaction of the Administration, for the total retention on board of the oily bilge water;	GMA will determine this on a case by case basis.

Annex I Chapter IV Requirements for the Cargo Areas of Oil Tankers (Part A: Construction)	18.5	Segregated Ballast Tanks	Notwithstanding the provisions of paragraph 2 of this regulation, the segregated ballast conditions for oil tankers less than 150 metres in length shall be to the satisfaction of the Administration.	GMA will determine this on a case by case basis.
Annex I Chapter IV Requirements for the Cargo Areas of Oil Tankers (Part A: Construction) *Product carriers of 40,000 tonnes deadweight and above delivered on or before 1 June 1982*	18.8.4	Segregated Ballast Tanks	Every product carrier operating with dedicated clean ballast tanks shall be provided with a Dedicated Clean Ballast Tank Operation Manual† detailing the system and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the Specifications referred to in subparagraph 8.2 of this regulation. If an alteration affecting the dedicated clean ballast tank system is made, the Operation Manual shall be revised accordingly.	No additional requirements other than the information set out in the Specifications referred to in subparagraph 8.2 of this regulation.

Annex I Chapter IV Requirements for the Cargo Areas of Oil Tankers (Part A: Construction)	23.3.1	Accidental Oil Outflow Performance	For oil tankers of 5,000 tonnes deadweight (DWT) and above, the mean oil outflow parameter shall be as follows: $OM \leq 0.015$ for $C \leq 200,000\ m^3$ $OM \leq 0.012 + (0.003/200,000)$ (400,000-C) for $200,000\ m3 < C < 400,000\ m^3$ $OM \leq 0.012$ for $C \geq 400,000\ m^3$ for combination carriers between 5,000 tonnes deadweight (DWT) and 200,000 m3 capacity, the mean oil outflow parameter may be applied, provided calculations are submitted to the satisfaction of the Administration, demonstrating that after accounting for its increased structural strength, the combination carrier has at least equivalent oil out flow performance to a standard double hull tanker of the same size having a OM < = 0.015. $OM \leq 0.021$ for $C \leq 100,000\ m^3$ $OM \leq 0.015 + (0.006/100,000)$ (200,000-C) for $100,000\ m^3 < C \leq 200,000\ m^3$ where: O_M = mean oil outflow parameter.	GMA will determine this on a case by case basis.

Annex I Chapter IV Requirements for the Cargo Areas of Oil Tankers (Part A: Construction)	28.6.2	Subdivision and Damage Stability	Notwithstanding the requirements of subparagraph .1 a stability instrument fitted on an oil tanker constructed before 1 January 2016 need not be replaced provided it is capable of verifying compliance with intact and damage stability, to the satisfaction of the Administration	GMA will determine this on a case by case basis.
Annex I Chapter IV Requirements for the Cargo Areas of Oil Tankers (Part A: Construction)	30.7	Pumping, Piping and Discharge Arrangement	Every oil tanker of 150 gross tonnage and above delivered on or after 1 January 2010, as defined in regulation 1.28.8, which has installed a sea chest that is permanently connected to the cargo pipeline system, shall be equipped with both a sea chest valve and an inboard isolation valve. In addition to these valves, the sea chest shall be capable of isolation from the cargo piping system whilst the tanker is loading, transporting, or discharging cargo by use of a positive means that is to the satisfaction of the Administration. Such a positive means is a facility that is installed in the pipeline system in order to prevent, under all circumstances, the section of the pipeline between the sea chest valve and the inboard valve being filled with cargo.	GMA will determine this on a case by case basis.

Annex I Chapter IV Requirements for the Cargo Areas of Oil Tankers (Part A: Construction)	35.1	Crude oil washing operations	Every oil tanker operating with crude oil washing systems shall be provided with an Operations and Equipment Manual* detailing the system and equipment and specifying operational procedures. Such a Manual shall be to the satisfaction of the Administration and shall contain all the information set out in the specifications referred to in paragraph 2 of regulation 33 of this Annex. If an alteration affecting the crude oil washing system is made, the Operations and Equipment Manual shall be revised accordingly.	No additional requirements other than the information set out in the specifications referred to in paragraph 2 of regulation 33

MARPOL Annex II				
Annex II Chapter I General	5.3.4	Equivalents	be provided with pumping and piping arrangements, which, to the satisfaction of the Administration, ensure that the quantity of cargo residue remaining in the tank and its associated piping after unloading does not exceed the applicable quantity of residue as required by regulation 12.1, 12.2 or 12.3	GMA requires compliance with the requirements of regulations 12.1, 12.2 or 12.3. Any deviation will be considered on a case by case basis.

MARPOL Annex IV				
Annex IV Chapter III Equipment and control of discharge	9.1.1 – 9.1.3	Sewage Systems	1 Every ship which, in accordance with regulation 2, is required to comply with the provisions of this Annex shall be equipped with one of the following sewage systems: .1 a sewage treatment plant which shall be of a type approved by the Administration, taking into account the standards and test methods developed by the Organization*, or .2 a sewage comminuting and disinfecting system approved by the Administration. Such system shall be fitted with facilities to the satisfaction of the Administration, for the temporary storage of sewage when the ship is less than 3 nautical miles from the nearest land, or .3 a holding tank of the capacity to the satisfaction of the Administration for the retention of all sewage, having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank shall be constructed to the satisfaction of the Administration and shall have a means to indicate visually the amount of its contents.	Refer to the Recommendation on international effluent standards and guidelines for performance tests for sewage treatment plants (resolution MEPC.2(VI)), or Revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants adopted by the MEPC (resolution MEPC.159(55)) (see Unified Interpretation 3), and Resolution MEPC.227(64) (Revised Guidelines on implementation of effluent standards and performance tests for sewage treatment plants). Any deviation will be considerd on a case by case basis. The holding tank capacity may be approved by Class provided following the submission of technical and operational data from the Owner. The tank construction to be compliant with Class Rules of a GMA recognised IACS member

Annex IV Chapter III Equipment and control of discharge	9.2.1 & .2	Sewage Systems	2 By derogation from paragraph 1, every passenger ship which, in accordance with regulation 2, is required to comply with the provisions of this Annex, and for which regulation 11.3 applies while in a special area, shall be equipped with one of the following sewage systems: .1 a sewage treatment plant which shall be of a type approved by the Administration, taking into account the standards and test methods developed by the Organization, or .2 a holding tank of the capacity to the satisfaction of the Administration for the retention of all sewage, having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank shall be constructed to the satisfaction of the Administration and shall have a means to indicate visually the amount of its contents.	Refer to the Recommendation on international effluent standards and guidelines for performance tests for sewage treatment plants (resolution MEPC.2(VI)), Revised guidelines on implementation of effluent standards and performance tests for sewage treatment plants adopted by the MEPC (resolution MEPC.159(55)) (see Unified Interpretation 3), or 2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants (resolution MEPC.227(64)). The holding tank capacity may be approved by Class provided following the submission of technical and operational data from the Owner. The tank construction to be compliant with Class Rules of a GMA recognised IACS member

Annex VI Chapter III Requirements for control of emissions from ships	13.7.2	Nitrogen oxides (NOx)	Paragraph 7.1 of this regulation shall apply no later than the first renewal survey that occurs 12 months or more after deposit of the notification in paragraph 7.1. If a shipowner of a ship on which an approved method is to be installed can demonstrate to the satisfaction of the Administration that the approved method was not commercially available despite best efforts to obtain it, then that approved method shall be installed on the ship no later than the next annual survey of that ship that falls after the approved method is commercially available.	Any deviation from regulation 7.1 will be considerd on a case by case basis, taking into account the 2014 Guidelines on the approved method process (resolution MEPC.243(66)).

LOAD LINES 1966				
Annex/Chapter	**Regulation**	**Reg Title**	**Paragraph Text**	**GMA Requirements**
Annex I, Chapter I	8	Details of marking	The ring, lines and letters shall be painted in white or yellow on a dark ground or in black on a light ground. They shall also be permanently marked on the sides of the ships to the satisfaction of the Administration. The marks shall be plainly visible and, if necessary, special arrangements shall be made for this purpose,	Refer to Gibraltar Merchant Shipping (Load Lines) Regulations 2004 / UK MCA MSN 1752 (as amended)
Annex I, Chapter II	11	Superstructure End Bulkheads	Bulkheads at exposed ends of enclosed superstructures shall be of efficient construction and shall be to the satisfaction of the Administration.	UK MCA MSN 1752, Schedule 1 Part 1 Section3 (as amended)
Annex I, Chapter II	15.8	Pontoon Covers	The strength and stiffness of covers made of materials other than mild steel shall be equivalent to those of mild steel to the satisfaction of the Administration.	UK MCA MSN 1752 Schedule 1 Part 1 Section 4 (as amended)

Annex I, Chapter II	16.3	Weathertight Cover	The strength and stiffness of covers made of materials other than mild steel shall be equivalent to those of mild steel to the satisfaction of the Administration.	UK MCA MSN 1752 Schedule 1 Part 1 Section 6.2 (as amended)
Annex I, Chapter II	16.4	Means for Securing Weathertightness	The means for securing and maintaining weathertightness shall be to the satisfaction of the Administration. The arrangements shall ensure that the tightness can be maintained in any sea conditions, and for this purpose tests for tightness shall be required at the initial survey, and may be required at periodical surveys and at annual inspections or at more frequent intervals.	UK MCA MSN 1752 (as amended)
Annex I, Chapter II	19.5	Ventilators	In exposed positions, the height of coamings may be required to be increased to the satisfaction of the Administration.	UK MCA MSN 1752 Schedule 1 Part 1 Section 9 (as amended)

Annex I, Chapter II	22.5	Scuppers, Inlets and Discharges	All valves and shell fittings required by this Regulation shall be of steel, bronze or other approved ductile material. Valves of ordinary cast iron or similar material are not acceptable. All pipes to which this Regulation refers shall be of steel or other equivalent material to the satisfaction of the Administration.	UK MCA MSN 1752 Schedule 1 Part 1 Section 12 (as amended)

Annex I, Chapter II	24.4	Freeing Ports	In ships having superstructures which are open at either or both ends, adequate provision for freeing the space within such superstructures shall be provided to the satisfaction of the Administration.	UK MCA MSN 1752 Schedule 1 Part 1 Section 14 (as amended)
Annex I, Chapter II	25.1	Protection of the Crew	The strength of the deckhouses used for the accommodation of the crew shall be to the satisfaction of the Administration.	UK MCA MSN 1752 Schedule 1 Part 1 Section 15(as amended)
Annex I, Chapter II	25.1	Protection of the Crew	Efficient guard rails or bulwarks shall be fitted on all exposed parts of the freeboard and superstructure decks. The height of the bulwarks or guard rails shall be at least 1 metre (39 1/2 inches) from the deck, provided that where this height would interfere with the normal operation of the ship, a lesser height may be approved if the Administration is satisfied that adequate protection is provided.	UK MCA MSN 1752 Schedule 1 Part 1 Section 15 (as amended)

Annex I, Chapter II	26.2	Gangway and Access	An efficiently constructed fore and aft permanent gangway of sufficient strength shall be fitted on Type "A" ships at the level of the superstructure deck between the poop and the midship bridge or deckhouse where fitted, or equivalent means of access shall be provided to carry out the purpose of the gangway, such as passages below deck. Elsewhere, and on Type "A" ships without a midship bridge, arrangements to the satisfaction of the Administration shall be provided to safeguard the crew in reaching all parts used in the necessary work of the ship.	UK MCA MSN 1752 Schedule 1 Part 2 Section 18 (as amended)
Annex I, Chapter III	39.2b	Minimum Bow Height	For ships over 100 metres (328 feet) in length it need not comply with Regulation3(10) but shall be fitted with closing appliances to the satisfaction of the Administration.	UK MCA MSN 1752 Schedule 4 Part 2 Section 16 (as amended)

COLREGS 1972				
Annex	**Reg**	**Reg Title**	**Paragraph Text**	**GMA Requirements**
I - Positioning and Technical Details of Lights and Shapes	14	Approvals	The construction of lanterns and shapes and the installation of lanterns on board the vessel shall be to the satisfaction of the appropriate authority of the State whose flag the vessel is entitled to fly.	Only type approved lamps appropriate for the size of vessel may be fitted. (IMO MSC.253(83) as amended)) 'Performance Standards for Navigation Lights, Navigation Light Controllers and associated equipment' to be adhered to. GMA will determine 'closest possible compliance' on a case by case basis whenever a vessel of special construction or purpose cannot comply fully with the provisions of any of these Rules. IACS UIs COLREG1 Rev.1 Corr.1, COLREG3 Rev.1 Corr.1, COLREG4 Corr.1 and COLREG5 are recognised
III - Technical Details of Sound Signal Appliances	3	Approvals	The construction of sound signal appliances, their performance and their installation on board the vessel shall be to the satisfaction of the appropriate authority of the State whose flag the vessel is entitled to fly.	Only type approved lamps appropriate for the size of vessel may be fitted. IMO MSC.253(83) 'Performance Standards for Navigation Lights, Navigation Light Controllers and associated equipment' to be adhered to. CISR will determine 'closest possible compliance' on a case by case basis whenever a vessel of special construction or purpose cannot comply fully with the provisions of any of these Rules.