



Guide for the Safe Return to Port of Passenger Ships

Effective from 1 January 2017

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GENERAL TERMS AND CONDITIONS
OF EMIRATES CLASSIFICATION SOCIETY – L.L.C – O.P.C (TASNEEF)
EFFECTIVE AS OF 1 APRIL 2025

DEFINITIONS

Administration	means the government of the state whose flag the Ship is entitled to fly or under whose authority the Ship is authorised to operate in the specific case.
Client	means the interested party and any other party who requires the Services.
Certificate of Classification	means a certificate of classification, issued by a Society and the certificate confirms that the vessel's structure, machinery, and equipment meet the society's specific technical rules and regulations.
Interested Party	means the party, other than the society, having an interest in or responsibility for the Ship, product, plant or system subject to classification or certification (such as the owner of the Ship and his representatives, the Ship builder, the engine builder or the supplier of parts to be tested) who requests the Services or on whose behalf the Services are requested.
Owner	means the registered owner, the Ship owner, the manager or any other party with the responsibility, legally or contractually, to keep the Ship seaworthy or in service, having particular regard to the provisions relating to the maintenance of class laid down in part a, chapter 2 of the rules for the classification of Ships or in the corresponding rules indicated in the specific rules.
Register of Ships	means a register book, also known as a Register of Ships, is a comprehensive record of vessels that are classified by a society.
Rules	means the documents below issued by the Society: a. Rules for the classification of Ships or other special units. b. Complementary rules containing the requirements for certification of products, plants, systems and other or containing the requirements for the assignment of additional class notations. c. Rules for the application of statutory rules, containing the rules to perform the duties delegated by administrations. d. Guides to carry out particular activities connected with Services. e. Any other technical document, as for example rule variations or interpretations.

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Services	means the activities described in Article 1 below, rendered by the Society upon request made by or on behalf of the Interested Party.
Ship	means ships, boats, craft and other special units, as for example offshore structures, floating units and underwater craft.
Society	means Emirates Classification Society LLC OPC and/or its affiliated entities providing the Services.
Surveyor	means technical staff acting on behalf of the society in performing the Services.
UAE	means United Arab Emirates.

ARTICLE 1

- 1.1 The purpose of the Society is, among others, the classification and certification of Ships and the certification of their parts and components.
- 1.2 The Society (a) sets forth and develops Rules; (b) publishes the Register of Ships¹; and (c) issues certificates, statements and reports based on its survey activities.
- 1.3 The Society also takes part in the implementation of national and international rules and standards as delegated by various Governments.
- 1.4 The Society carries out technical assistance activities on request and provides special services outside the scope of classification, which is regulated by these general conditions unless expressly excluded in the particular contract.

ARTICLE 2

- 2.1 The Rules developed by the Society reflect the level of its technical knowledge at the time they are published. Therefore, the Society, though committed, also through its research and development services, to continuous updating, does not guarantee they meet state-of-the-art science and technology at the time of publication or that they meet the Society's or others' subsequent technical developments.
- 2.2 The Interested Party is required to know the Rules on the basis of which the Services are provided. With particular reference to Classification Services, special attention is to be given to the Rules concerning class suspension, withdrawal and reinstatement. In case of doubt or inaccuracy, the Interested Party is to promptly contact the Society for clarification. The Rules for Classification of Ships are published on the Society's website: www.tasneefmaritime.ae
- 2.3 The Society exercises due care and skill:
 - (a) in the selection of its Surveyors; and
 - (b) in the performance of its Services, taking into account the level of its technical knowledge at the time the

Services are performed.

- 2.4 Surveys conducted by the Society include, but are not limited to, visual inspection and non-destructive testing. Unless otherwise required, surveys are conducted through sampling techniques and do not consist of comprehensive verification or monitoring of each component of the Ship or of the items subject to certification. The surveys and checks made by the Society, either on board Ships or with remote techniques, do not necessarily require the constant and continuous presence of the Surveyor. The Society may also commission laboratory testing, underwater inspection and other checks to qualified service suppliers, who will carry out these duties under their responsibility. Survey practices and procedures are selected by the Society based on its experience and knowledge and according to generally accepted technical standards in the sector.

ARTICLE 3

- 3.1 The class assigned to a Ship, like the reports, statements, certificates or any other document or information issued by the Society, reflect the discretionary opinion of the Society concerning compliance, at the time the Service is provided, of the Ship or product subject to certification, with the applicable Rules (given the intended use and within the relevant time frame).
- 3.2 The Society is under no obligation to make statements or provide information about elements or facts which are not part of the specific scope of the Service requested by the Interested Party or on its behalf.
- 3.3 No report, statement, notation on a plan, review, Certificate of Classification, document or information issued or given as part of the Services provided by the Society shall have any legal effect or implication other than a representation that, on the basis of the checks made by the Society, the Ship, structure, materials, equipment, machinery or any other item covered by such document or information meet the Rules. Any such document is issued solely for the use of the Society, its committees and clients or other duly authorised bodies and for no other purpose. Therefore, the Society cannot be held liable for any act made or document issued by other parties on the basis of the statements or information given by the Society. The validity, application, meaning and interpretation of a Certificate of Classification, or any other document or information issued by the Society in connection with its Services, are governed by the Rules of the Society, whom is the sole subject entitled to make such authentic interpretation. Any disagreement on technical matters between the Interested Party and the Surveyor in the carrying out of his functions shall be raised in writing as soon as possible with the Society, which will settle any divergence of opinion or dispute.
- 3.4 The classification of a Ship, or the issuance of a certificate or other document connected with classification or certification and in general with the performance of Services by the Society shall have the validity conferred upon it by the Rules of the Society at the time of the assignment of class or issuance of the certificate; in no case shall it amount to a statement or warranty of seaworthiness, structural integrity, quality or fitness for a particular purpose or service of any Ship, structure, material, equipment or machinery inspected or tested by the Society.
- 3.5 Any document issued by the Society in relation to its activities reflects the condition of the Ship or the subject of certification or other activity at the time of the check.
- 3.6 The Rules, surveys and activities performed by the Society, reports, certificates and other documents issued by

the Society are in no way intended to replace the duties and responsibilities of other parties including, without limitation, Governments, designers, ship builders, manufacturers, repairers, suppliers, contractors or sub-contractors, Owners, operators, charterers, underwriters, sellers or intended buyers of a Ship or other product or system surveyed.

- 3.7 These documents and activities do not relieve such parties from any fulfilment, warranty, responsibility, duty or obligation (also of a contractual nature) expressed or implied or in any case incumbent on them, nor do they confer on such parties any right, claim or cause of action against the Society. With particular regard to the duties of the Owner, the Services undertaken by the Society do not relieve the Owner of his duty to ensure proper maintenance of the Ship and ensure seaworthiness at all times. Likewise, the Rules, surveys performed, reports, certificates and other documents issued by the Society are intended neither to guarantee the buyers of the Ship, its components or any other surveyed or certified item, nor to relieve the seller of the duties arising out of the law or the contract, regarding the quality, commercial value or characteristics of the item which is the subject of transaction.
- 3.8 In no case, therefore, shall the Society assume the obligations incumbent upon the above-mentioned parties, even when it is consulted in connection with matters not covered by its Rules or other documents.
- 3.9 In consideration of the above, and within the limits of liability under Article 5 below, the Interested Party undertakes to relieve and hold harmless the Society from any third party claim, as well as from any liability in relation to the latter concerning the Services rendered, where these are attributable to the Interested Party.
- 3.10 Insofar as they are not expressly provided for in these General Conditions, the duties and responsibilities of the Owner and Interested Parties with respect to the Services rendered by the Society are described in the Rules applicable to the specific Service rendered.

ARTICLE 4

- 4.1 Any request for the Society's Services shall be submitted in writing and signed by or on behalf of the Interested Party. Such a request will be considered irrevocable as soon as received by the Society and shall entail acceptance by the applicant of all relevant requirements of the Rules, including these General Conditions. Upon acceptance of the written request by the Society, a contract between the Society and the Interested Party is entered into, which is regulated by the present General Conditions.
- 4.2 In consideration of the Services rendered by the Society, the Interested Party and the person requesting the service shall be jointly liable for the payment of the relevant fees and costs, even if the service is not concluded for any cause not pertaining to the Society. In the latter case, the Society shall not be held liable for non-fulfilment or partial fulfilment of the Services requested. In the event of non-payment of the invoice within the contractually agreed terms, the Society reserves the right to request, in addition to the full payment of the principal amount due and without the need for further formal notice, also:
- (a) Late payment interest at a rate of 5% per annum, calculated from the due date of the invoice until full payment is received, in accordance with the applicable laws in the United Arab Emirates or the country from where the invoice is issued. Any applicable VAT, taxes, or statutory levies shall be borne by the Client as per the laws

of the respective jurisdiction;

- (b) full reimbursement of any costs incurred for debt recovery, including, but not limited to, legal fees, administrative expenses, and the costs of any extrajudicial actions; and
- (c) any additional amount due as compensation for damages suffered as a result of the delay or non-compliance, where documented.

- 4.3 The contract for the classification of a Ship or for other Services may be terminated and any certificates revoked at the request of one of the parties, subject to at least 30 days' notice to be given in writing. Failure to pay, even in part, the fees due for Services carried out by the Society will entitle the Society to immediately terminate the contract and suspend the Services.
- 4.4 The Society may withhold, suspend or withdraw any certificate, report or service in the event of non-payment of fees due to any member of the Society by the Client in relation to the entire business relationship between any member of the Society and the Client or by any other companies belonging to the same group as the Client. This also applies when the obligation to pay rests with a builder or with the Ship's previous Owner.
- 4.5 For every case of termination or suspension of the contract, the fees for the activities performed until the time of the termination or of the suspension shall be owed to the Society as well as the expenses incurred in view of activities already programmed; this is without prejudice to the right to compensation due to the Society as a consequence of the termination or of the suspension.
- 4.6 With particular reference to Ship classification and certification, unless decided otherwise by the Society, termination of the contract implies that the assignment of class to a Ship is withheld or, if already assigned, that it is suspended or withdrawn; any statutory certificates issued by the Society will be withdrawn in those cases where provided for by agreements between the Society and the flag State.

ARTICLE 5

- 5.1 In providing the Services, as well as other correlated information or advice, the Society, its Surveyors, servants or agents operate with due diligence for the proper execution of the activity. However, considering the nature of the activities performed (see Article 2), it is not possible to guarantee absolute accuracy, correctness and completeness of any information or advice supplied. Express and implied warranties are specifically disclaimed.
- 5.2 Therefore, subject to what provided for in Article 5.3 below, and also in the case of activities carried out by delegation of Governments, neither the Society nor any of its Surveyors will be liable for any loss, damage or expense of whatever nature sustained by any person, in tort or in contract, derived from carrying out the Services.
- 5.3 Notwithstanding the provisions in Article 5.1 above, should any user of the Society's Services prove that he has suffered a loss or damage due to any negligent act or omission of the Society, its Surveyors, servants or agents, then the Society will pay compensation to such person for his proved loss, up to, but not exceeding, five times the amount of the fees charged for the specific Services, information or opinions from which the loss or damage derives or, if no fee has been charged, a maximum of AED5,000 (Arab Emirates Dirhams Five Thousand only).
- 5.4 Where the fees charged are related to a number of Services, the amount of the fees will be apportioned for the purpose of the calculation of the maximum compensation, by reference to the estimated time involved in the

performance of the Service from which the damage or loss derives. Any liability for indirect or consequential loss, damage or expense is specifically excluded. In any case, irrespective of the amount of the fees charged, the maximum damages payable by the Society will not be more than AED 300,000 (Three Hundred Thousand Dirhams). Payment of compensation under this Article will not entail any admission of responsibility and/or liability by the Society and will be made without prejudice to the disclaimer clause contained in Article 5.

- 5.5 Any claim for loss or damage of whatever nature by virtue of the provisions set forth herein shall be made to the Society in writing, within the shorter of the following periods: THREE MONTHS from the date on which the Services were performed or THREE MONTHS from the date on which the damage was discovered. Failure to comply with the above deadline will constitute an absolute bar to the pursuit of such a claim against the Society.

ARTICLE 6

- 6.1 Any dispute, controversy, or claim arising out of or relating to these Rules, the Services of the Society, or the interpretation, breach, or termination thereof, shall first be referred to the parties' senior management for amicable resolution within thirty (30) days of written notice by either party.
- 6.2 If the dispute is not resolved amicably under Article 6.1, it shall be exclusively governed by and construed in accordance with the laws of the Emirate of Abu Dhabi and the applicable federal laws of the United Arab Emirates. The courts of Abu Dhabi shall have exclusive jurisdiction to settle any such dispute.

ARTICLE 7

- 7.1 All plans, specifications, documents and information provided by, issued by, or made known to the Society, in connection with the performance of its Services, will be treated as confidential and will not be made available to any other party other than the Owner without authorisation of the Interested Party, except as provided for or required by any applicable legislation from a competent authority. Information about the status and validity of class and statutory certificates, including transfers, changes, suspensions, withdrawals of class, conditions of class, operating conditions or restrictions issued against classed ships and other related information, as may be required, may be published on the website or released by other means, without the prior consent of the Interested Party.
- 7.2 Information about the status and validity of other certificates and statements may also be published on the website or released by other means, without the prior consent of the Interested Party.
- 7.3 Notwithstanding the general duty of confidentiality owed by the Society to its clients in Article 7.1 above, the Society's clients hereby accept that the Society will participate in the IACS Early Warning System which requires each Classification Society to provide other involved Classification Societies with relevant technical information on serious hull structural and engineering systems failures, as defined in the IACS Early Warning System (but not including any drawings relating to the Ship which may be the specific property of another party), to enable such useful information to be shared and used to facilitate the proper working of the IACS Early Warning System. The Society will provide its clients with written details of such information sent to the involved Classification Societies.
- 7.4 In the event of transfer of class, addition of a second class or withdrawal from a double/dual class, the Interested Party undertakes to provide or to permit the Society to provide the other Classification Society with all building plans and drawings, certificates, documents and information relevant to the classed unit, including its history file,

as the other Classification Society may require for the purpose of classification in compliance with the applicable legislation and relative IACS Procedure. It is the Owner's duty to ensure that, whenever required, the consent of the builder is obtained with regard to the provision of plans and drawings to the new Society, either by way of appropriate stipulation in the building contract or by other agreement.

- 7.5 In the event that the ownership of the Ship, product or system subject to certification is transferred to a new subject, the latter shall have the right to access all pertinent drawings, specifications, documents or information issued by the Society or which have come to the knowledge of the Society while carrying out its Services, even if related to a period prior to transfer of ownership.

ARTICLE 8

- 8.1 The Society shall not be obliged to perform any obligation towards the Client (including, without limitation, obligation to (a) perform, deliver, accept, sell, purchase, pay or receive money to, from or through a person or entity, or (b) engage in any other act) if this would be in violation of, inconsistent with or expose the Society to punitive measures under any United Nations resolutions and/or under any laws, regulations, decrees, ordinances, orders, demands, requests, rules or requirements of EU, United Kingdom, and/or United States of America and which relate to foreign trade controls, export controls, embargoes or international boycotts (applying, without limitation, to the financing, payment, insurance, transportation, delivery or storage of product and/or services) hereinafter referred to as "Trade Sanctions".
- 8.2 Recurring the above circumstances during the performance of the contract, the Society shall be entitled at its sole and absolute discretion:
- (a) to immediately suspend payment or performance of the Services which are the object of the contract until such;
 - (b) time as the Trading Sanctions are in force;
 - (c) to a full disengagement from the obligation affected by the Trading Sanctions, in the event that the inability to fulfill the said obligation persists until the term provided for the fulfilment hereunder, provided that where the relevant obligation relates to payments for activities and/or Services which have already been delivered, the affected payment obligation shall remain only suspended until such time as the Trading Sanctions no longer apply to the payment ; and/or
 - (d) to terminate the contract, without prejudice of the Society's rights pursuant to Article 4.

ARTICLE 9

Should any part of these General Conditions be declared invalid, this will not affect the validity of the remaining provisions.

ARTICLE 10

When the Society provides its Services to a consumer - i.e. a natural person who does not act within the scope of his business or professional activity - the following provisions do not apply Article 3 (as far as the Society is solely entitled to the authentic interpretation of the Rules); Article 4, (as far as the payment of the fees is also due for Services not

concluded due to causes not attributable to the Interested Party); Article 5 (as far as the exclusion of liability is concerned), and Article 6 (as far as the jurisdiction of a Board of Arbitrators based in Abu Dhabi is concerned).

ARTICLE 11

- 11.1 The Society and the Interested Party shall promote safety, protect human health and environment and create safe working conditions for their personnel.
- 11.2 The Interested Party shall guarantee that the working environment in which the Society's Surveyor will be required to work is adequate, safe and in all respect compliant with the applicable legislation and Rules and shall adopt all necessary measures to mitigate and/or control any relevant risk.
- 11.3 Furthermore, in accordance with the applicable legislation and Rules, the Interested Party shall provide the Society with complete and detailed information relevant to any actual or potential specific risk existing in the work areas where the Surveyor will be required to operate and relevant to the performance of the Services as well as with any specific safety measure that the Society's Surveyor is requested to comply with.
- 11.4 The Society reserves not to commence and/or to suspend the Services and/or to terminate the contract, claiming compensation for any damage occurred, if it considers that the safety requirements listed in this Article are not satisfactorily met.



TASNEEF
هيئة الإمارات للتصنيف
EMIRATES CLASSIFICATION SOCIETY

GUIDE FOR SRTP OF PASSENGER SHIPS

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CHAPTER 1

GENERAL

1 GENERAL

1.1 Purpose

1.1.1 This guide is intended to support the engineering design relevant to the requirements of the safe return to port (SRtP) regulations adopted by IMO Resolution MSC.216(82), and subsequently integrated with the Interim Explanatory Notes of MSC.1/Circ.1369, MSC.1/Circ.1369 Add.1 and MSC.1/Circ.1437.

1.2 Field of application

1.2.1 This guide applies to passenger ships with keel laid on or after 1 July 2010, and having a length of 120 m or more or having three or more main vertical fire zones, which therefore are to comply with the requirements as per SOLAS II-1 Reg. 8-1 and SOLAS II-2 Regs. 21 and 22.

2 REFERENCES

2.1

2.1.1

- a) IMO Resolution MSC.216(82) "Adoption of amendments to the International Convention for the Safety of Life at Sea, 1974, as amended", Reg.21, 22 and 23
- b) MSC.1/Circ.1369 "Interim Explanatory Notes for the Assessment of Passenger Ship Systems' Capabilities after a Fire or Flooding Casualty"
- c) MSC.1/Circ.1369 Add.1 "Interim Explanatory Notes for the Assessment of Passenger Ship Systems' Capabilities after a Fire or Flooding Casualty" - Revisions to Interpretations Nos. 22 and 27 of Appendix 1 of MSC.1/Circ.1369,
- d) MSC.1/Circ.1437 "Unified Interpretations of SOLAS Regulation II-2/21.4 "
- e) Tasneef Rules 2016, Pt E, Ch 11, Sec 4, Par. 3 "Qualitative Failure Analysis for Propulsion and Steering on Passenger Ships".

3 APPLICATION

3.1 Criteria

3.1.1 The basic criteria to be followed for a newbuilding design compliant with SRtP regulations and the documentation to be produced are as laid out in [2]b) c) and d).

Such criteria necessarily imply the following minimum requirements:

- After a casualty that may occur in any compartment, the design is to ensure the required availability of the systems that provide and distribute the necessary power (e.g. electrical power, compressed air, hydraulic oil) and control to all the ship systems that are to remain operational.
- After a casualty, the systems dedicated to fire safety and watertight integrity may be lost in the compartment directly involved in the casualty, but they are required to maintain the continued service in all the other spaces.
- After a casualty, the number of manual actions to be performed manually and locally is to be reduced to a minimum, and it is to be demonstrated that such actions are clearly defined, realistic and feasible.
- Once safe areas have been identified, the design is to ensure that all the systems required for habitability in safe areas not affected by a casualty (e.g. potable water, food, sanitation, air conditioning, lighting) are to be simultaneously available.
- Systems that are to remain operational for 3 hours to support an orderly evacuation of the ship (SOLAS II-1/Reg.22) following the complete loss of any Main Vertical Zone are to be designed in such a way that the casualty in any zone does not impair their 3-h capabilities in any other zone.
- Special attention is to be paid to the arrangement and protection of ducts, cables and piping to ensure full compliance with the aforesaid requirements.
- The design is to be supported by risk-based studies as per Sec 2, [2]. In particular, the qualitative analysis is to comply with Sec 2, [5].

4 DOCUMENTATION

4.1

4.1.1 The documentation of the overall process is to comply with Section 7 of MSC.1/Circ.1369 Sec 7 of Ref 2. The specific drawings to be submitted to the Society are defined in the following Chapters.

5 METHOD OF STUDY

5.1

5.1.1 The complexity of a Safe Return to Port design calls for a close cooperation among all the relevant parties (Administration, owner, operators, designers, and the Society) from the very beginning of the design. In particular, the relevant Administration may introduce additional require-

ments and/or interpretations of the systems to remain operational following a casualty.

It is to be noted that the SRtP design is driven up front by the defined operational characteristics of the ship, such as e.g. navigating range, number of passengers and crew, performance levels following a SRtP casualty, habitability for safe areas.

In particular, the design is to specify the performance characteristics of the redundant components, in order to account for the possibility that any of them may be put out of service for maintenance; in such cases, the possibility that the ship is not anymore SRtP-compliant is to be explored.

The main aspect of the assessment of essential and critical systems is the necessity of correctly account for the failure combinations among those systems and the interfaces among systems and spaces: system failures may be caused by equipment malfunctions or fire / flooding casualties. Thus, the risk-based study should combine functional and layout aspects.

This may easily originate a very large amount of accident scenarios, each of which needs to be examined in detail to verify the compliance with the Safe Return to Port requirements.

To cope with this task, it is recommended to adopt an appropriate systematic approach capable to check and document all the systems-spaces failure combinations.

If software tools are used for the aforesaid analysis, the applied methodology, theories and assumptions used in the tool are to be properly documented.

Appropriate evidence is to be provided on how the following issues are accounted for:

- Ship spaces
- Ducts, cables and piping, with their fire and flooding characteristics
- Systems and components, with their fire and flooding characteristics
- Assumed casualty cases.

6 VERIFICATION

6.1

6.1.1 As far as practicable, the fulfillment of the safe return to port capabilities is to be verified and properly documented through a test program to be agreed by all the relevant parties and approved by the Society. The outcome of the risk-based studies should, when practicable, be also used to plan the test program.

CHAPTER 2 SHIP ARRANGEMENT

1 General

1.1

1.1.1 No specific indications are given.

CHAPTER 3 HULL AND STABILITY

1 General

1.1

1.1.1 No specific indications are given.

CHAPTER 4

MACHINERY, SYSTEMS AND FIRE PROTECTION

1 MACHINERY

1.1

1.1.1 No specific indications are given.

2 ELECTRICAL INSTALLATIONS

2.1 Documentation to be submitted

2.1.1 In addition to the documentation requested in Pt C, Ch 2, Sec 1, [2] and Pt E, Ch 12, Sec 5 of Tasneef Rules for the Classification of Ships, the following are to be submitted for approval:

- a) An electrical power balance for each of the following safe return to port scenarios:
 - minimum electrical-generating capacity available;
 - any other scenario of reduced power that would cause any essential system to run at reduced capacity due to lack of electrical generating capacity;
- b) Power and control cables route for each system required to remain operational during safe return to port;
- c) An arrangement plan showing the location of switchboards, distribution board, section boards, UPS, etc. for the power supply of systems required to remain operational during safe return to port;
- d) Lay-out of auxiliary circuits serving systems required to remain operational during safe return to port.

2.2 Specific issues

2.2.1 Additional protection of high voltage main switchboards - Arc Detection System

- a) In order to limit the consequences of an internal arc to the high voltage main switchboards, measures may be adopted for a rapid fault-clearance times initiated by an Arc Detection System by means of detectors sensitive to light.
- b) An independent Arc Detection System is to be provided for each section of the main switchboard arranged in separate engine rooms.
- c) The Arc Detection System is to be capable to monitor each compartment of the relevant main switchboard.
- d) The total disconnection of one section of the main switchboard, as a consequence of an arc fault, is permitted only when it is demonstrated that an arc fault located in any compartments of the switchboard (e.g. cable compartments, circuit breaker compartment, etc.) may jeopardise the operation of the entire switchboard.
- e) The power supply to the Arc Detection System is to be specially considered by the Society. The arrangement of the power supplies are to be in such a way that a failure

inside the Arc Detection System will not cause the loss of generators and/or essential services.

- f) An alarm system is to be provide for the Arc Detection System. The alarm system is to be of the self-check type; failure within the alarm system, including the outside connection, is to activate an alarm.
- g) Alarms are to be activated in case of any failure of the Arc Detection System, including arc detectors faults. The information relevant to the arc detector which has detected the arc is to be retained by the alarm system.
- h) Faults in Arc Detection System is not to impair the safety of the electrical system.
- i) A failure analysis is to be carried out using appropriate means (e.g. FMEA) to demonstrate that, for single failures, system will fail to safety and that system in operation will not be lost or degraded beyond acceptable performance criteria. Faults are to be simulated as realistically as possible to demonstrate appropriate system fault detection and system response.
- j) The Arc Detection System, including relevant arc detectors, is to be type tested or type approved according to the tests listed in Pt C, Ch 3, Sec 6, Tab 1 of Tasneef Rules for the Classification of Ships.

2.3 High voltage fire-resistant cables

2.3.1 According to MSC.1/Circ.1369, Interpretation 5 of SOLAS II-2 Reg.21.3, electrical cables contained in trunks closed at all boundaries constructed to "A-60" standard can be considered to remain operational when passing through a space of origin after a fire casualty.

As an alternative to the "A-60" trunks, according to MSC.1/Circ.1369, Interpretation 13 of SOLAS II-2 Reg.21.4, fire-resistant cables complying with standards IEC 60331-1 and IEC 60331-2 (see also IACS UR E15) may be used, provided they have no connections, joints and equipment connected to them, etc., within the space affected by the casualty.

However standards IEC 60331-1 and IEC 60331-2 cover tests for cables of rated voltage up to and including 0,6/1,0 kV and they are not applicable to high voltage cables of rated voltage exceeding 1kV.

Therefore, for the acceptance on board of high voltage fire-resistant cables, they are to be tested in accordance with national or international standards accepted by the Society, provided that they are of an equivalent or higher safety level than those given in IEC 60331-1 and IEC 60331-2 (e.g. cables are to be tested for at least 60 minutes and are to survive the test without failure for at least 60 minutes).

Installation of these cables should be made to support their survival in a fire casualty and during fire-fighting efforts. Regarding the latter issue, in order to demonstrate that the cable remains electrically intact for the duration of the fire

fighting, an appropriate test is to be carried out upon agreement with the Society.

2.4 Electrical watertight sliding doors

2.4.1

- a) When electrical watertight sliding doors are installed on board, two independent electrical motors for the operation of each doors are to be provided;
- b) the FMEA required in Pt C, Ch 2, Sec 1, [2] of Tasneef Rules for the Classification of Ships is to ascertain that a single failure in the electric power-operated system, including the failure of the electrical motor, does not prevent the hand operation of the door in order to comply with SOLAS Ch. II-1/Reg.13.7.3;
- c) following the failure of the electric power-operated system, it is to be still possible:
 - hand operating the door at the door itself and
 - controlling the door from the emergency stationby means of the other motor and the hand operated generators (one locally and one at the emergency station).

3 AUTOMATION

3.1

- 3.1.1 No specific indications are given.

4 FIRE PROTECTION

4.1 General

4.1.1 Gas detection system in gas-fuelled ships

If the ship compliant with SRtP is gas-fuelled, the gas detection system is to be considered a safety system, and for this reason it is to remain operational after a fire or flooding casualty according to SRtP criteria.