

IMO UPDATE NO 7-2019 / JUNE

## IMO MARITIME SAFETY COMMITTEE

101<sup>TH</sup> SESSION, 5 -14 JUNE 2019

## MEETING HIGHLIGHTS:

- Finalized interim guidelines for trials of Maritime Autonomous Surface Ships (MASS).
- Agreed on interim measures to enhance the safety of ships relating to the use of oil fuel.
- Clarified the process for developing IMO goal-based standards.

## INTRODUCTION

The 101<sup>th</sup> session of the Maritime Safety Committee (MSC) was held in London from 5 to 14 June 2019.

The following is a summary of the items discussed during that session assumed to be significant and of interest to the shipping industry.

## ADOPTION OF AMENDMENTS TO MANDATORY INSTRUMENTS

MSC 101 adopted amendments to the following mandatory IMO instruments:

**SOLAS - Safety of Life at Sea**

Amendments to the Record of Equipment (Form E, C and P) contained in the appendix to SOLAS to clarify the field "Rudder, propeller, thrust, pitch and operational mode indicator".

*The amendments will enter into force 1 January 2024.*

**FSS Code - Fire Safety Systems**

Amendments to replace the term "forward of" with the term "downstream of" to clarify the arrangement of inert gas systems in chapter 15 of the FSS Code.

*The amendments will enter into force 1 January 2024.*

**IGF Code - Safety for Ships using Gases or other Low-flashpoint Fuels**

Amendments to parts A and A-1, inter alia concerning safe fuel distribution outside machinery spaces and fire protection between spaces containing fuel containment systems.

*The amendments will enter into force 1 January 2024.*

**LSA Code - Life-Saving Appliances**

Amendments to clarify manual launching of rescue boats (para 6.1.1.3), and to exempt lifeboats equipped with two independent propulsion systems from being equipped with buoyant oars (para 4.4.8.1).

*The amendments will enter into force 1 January 2024.*

**IBC and BCH Code - Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk**

The carriage requirements for all IBC Code products will change, consequently vessels holding a Certificate of Fitness or an NLS Certificate will need to be provided with new certificates and corresponding product lists based on the new carriage requirements. The new certificate will be issued prior to 1 January 2021 and will supersede the existing certificates on this date.

*The amendments will enter into force 1 January 2021.*

**IMSBC Code - Solid Bulk Cargoes**

Amendments providing updated information on the shipment of certain types of solid bulk cargoes.

*The amendments will enter into force 1 January 2021.*

Consequential amendments to MSC.1/Circ.1395/Rev.3 on "Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire-extinguishing system is ineffective" were approved accordingly.

**2011 ESP Code - Enhanced Programme of Inspections During Surveys of Bulk Carriers and Oil Tankers**

Amendments to align the Code with the survey and certification requirements of the IACS UR Z series.

*The amendments will enter into force 1 January 2021.*

**1983 SPS Code (A.534(13)) - Safety for Special Purpose Ships**

Consequential amendments to the Record of Equipment, following amendments to SOLAS chapter IV to accommodate additional mobile satellite providers in the GMDSS.

*The amendments will become effective 1 January 2020.*

## MEASURES TO ENHANCE MARITIME SECURITY

### Cyber risk management

MSC 101 reaffirmed that Administrations are encouraged to ensure that cyber risks are appropriately addressed in safety management systems no later than the first annual verification of a company's Document of Compliance after 1 January 2021, as stated in resolution MSC.428(98).

MSC 101 agreed that cyber risk management should be integrated with existing management systems under the ISM Code and ISPS Code, not established as separate cyber risks managements systems.

### AUTONOMOUS SHIPS

The prospect of autonomous ships operating internationally with little or no human intervention, relying on artificial intelligence, sensors and advanced data processing, are one of the most significant concepts the maritime sector has witnessed in years.

### Interim guidelines for MASS trials

MSC 101 finalized draft interim guidelines for MASS trials. The guidelines are kept at a high, generic level, following a goal-based approach. It was recognized that there are already several IMO regulations in place with respect to testing and trials, e.g. STCW regulation I/13 (Conduct of trials).

The principle for authorizing trials in the interim guidelines for MASS trials as well as STCW/I/13 is that at least the same degree of safety, security and protection of the environment is provided as by the mandatory instruments.

### Regulatory Scoping Exercise

IMO has initiated a Regulatory Scoping Exercise (RSE), intended to determine the extent of amendments needed to existing IMO instruments if these were to enable safe, secure and environmentally sustainable operation of MASS.

An intersessional working group on MASS will meet in London from 2-6 September 2019.

### GOAL-BASED STANDARDS

The generic guidelines for developing IMO goal-based standards (MSC.1/Circ.1394/Rev.1) describe a process where goals and functional requirements, intended to mitigate the relevant hazards identified for the topic under consideration, are set before prescriptive regulations and rules.

MSC 101 reviewed and amended the generic guidelines based on experience gained by their application to regulatory developments.

MSC 101 approved revision 2 of MSC.1/Circ.1394 that contains a new Appendix 3, providing a detailed example of the three-step process for developing functional requirements; 1) identification, ranking and selection of relevant hazards; 2) developing risk mitigating functions and expected performance; and 3) formulation of functional requirements including description, rationale and expected performance.

### NON-SOLAS SHIPS IN POLAR WATERS

Fishing vessels and yacht incidents in polar waters pose a risk to human life, to the polar environment and to search and rescue operations.

MSC 101 approved a draft assembly resolution on interim safety measures for ships not certified under the SOLAS convention operating in polar waters. The draft resolution encourages Member States to apply safety measures set out in the Polar Code to non-SOLAS ships operating in polar waters.

MSC 101 further agreed that the feasibility and consequences of applying mandatory navigation, communications and voyage planning requirements to non-SOLAS vessels operating in polar waters should be further considered by the sub-committee on Navigation, Communications, Search and Rescue (NCSR 7) in January 2020.

### FUEL OIL SAFETY

Following introduction of the 0.50 % sulphur limit in marine fuel oil from 1 January 2020, MSC 100 committed to develop further measures to enhance the safety of ships relating to the use of fuel oil.

MSC 101 developed a draft MSC resolution on *interim* measures, recommending Parties and Member States to report to IMO confirmed cases of delivery of fuel failing to meet the flashpoint requirement or fuel that jeopardized the safety of ships or personnel, and to consider actions to be taken in case of such confirmed non-compliance. The draft resolution further encourages the widest possible application of the latest edition of ISO 8217:2017 on Fuel standard for marine distillate fuels.

MSC 101 also developed an action plan for how to progress further work, including development of *mandatory* requirements for reporting confirmed cases where fuel oil suppliers have failed to meet the

flashpoint requirement. This will be further considered by a correspondence group until MSC 102 in May 2020.

## CARRIAGE OF CARGOES AND CONTAINERS

### Ships using natural gas as fuel

MSC 101 approved draft amendments to the IGF Code, addressing cofferdams required for fire protection purposes (para. 6.7.1.1), and fixed fire-extinguishing systems in LNG fuel preparation spaces (chapter 11).

The amendments will be submitted to MSC 102 for adoption.

MSC 101 also approved a draft MSC circular containing unified interpretations to the IGF Code to clarify provision of drip trays to protect the ship steel from LNG leakages, means to monitor ventilation capacity, and hazardous area classification of fuel storage hold spaces and spaces containing gas admission valves at dual fuel engines and gas engines.

### Ships carrying liquefied gases in bulk

MSC 101 approved a draft MSC circular containing unified interpretations to the IGC Code to clarify redundancy in the cargo tank heating arrangement, fire properties of emergency shutdown valves, water-spray protection of survival craft and tank groups in cargo areas.

MSC 101 also approved a draft MSC circular on carriage of the additional products listed in chapter 19 of the amended IGC Code (MSC.370(93)) on ships built after 1 July 1986 and before 1 July 2016.

### High manganese austenitic steel for cryogenic service

MSC 101 approved draft amendments to the IGF Code (para. 16.3.3.5.1) and the IGC Code (para 6.5.3.5.1) concerning welding procedure tensile tests for materials other than aluminium alloys.

The amendments will be submitted to MSC 102 for adoption.

## NAVIGATION, COMMUNICATIONS, SEARCH AND RESCUE

### Standardized modes of operation

MSC 101 approved draft Guidelines on standardized modes of operation (S-mode), describing standard displays and controls to be available in navigational equipment.

MSC 101 also approved amendments to SN.1/Circ.243/Rev.1 providing guidelines to address

abbreviations and symbols for ECDIS, radar and Integrated Navigation Systems.

MSC 101 adopted amendments to MSC.191(79) providing performance standards for presentation of information on navigational displays. The amendments will enter into force 1 January 2024.

### Navigation and communication equipment on ships operating in polar waters

MSC 101 approved a draft MSC circular on Guidance for navigation and communication equipment intended for use on ships operating in polar waters.

The Guidance includes recommendations on environmental characteristics such as polar temperatures, mechanical shock testing for equipment intended for installation on ships expecting ice breaking situations, and recommendations to address ice accretion and battery performance in cold temperatures.

### Performance standards for EPIRBs

MSC 101 adopted a draft MSC resolution on amendments to the performance standards for float-free emergency position-indicating radio beacons (EPIRBs) operating on 406 MHz.

In addition to changes in the transmission characteristics of such second generation EPIRBs, they may also transmit Automatic Identification System (AIS) locating signals.

### Testing of Voyage Data Recorders

MSC 101 approved guidelines on annual testing of voyage data recorders (VDR) and simplified voyage data recorders (S-VDR) (MSC.1/Circ. 1222).

### Iridium mobile satellite service in the GMDSS

Following MSC 99s recognition of Iridium satellite services for use in the GMDSS, MSC 101 approved an interim preliminary draft Iridium SafetyCast services manual to provide support to the work required during the initial operation phase of the Iridium mobile satellite service. The interim manual will be circulated as an MSC circular.

## SHIP DESIGN AND CONSTRUCTION

### Safe mooring operations

MSC 101 approved draft amendments to SOLAS Reg. II-1/3-8 on 'Towing and mooring equipment' to include documentation of the mooring arrangements and the rationale for selection of the mooring equipment, including lines.

The following associated draft new and revised Guidelines were approved in principle:

- Draft new 'Guidelines on the *design* of mooring arrangements and the selection of appropriate mooring equipment and fittings for safe mooring'.
- Draft new 'Guidelines for *inspection and maintenance* of mooring equipment including lines'.
- Draft revised 'Guidance on shipboard towing and mooring equipment' (MSC.1/Circ.1175/Rev.1), aligned with IACS Unified Requirement A2 Rev.4 Corr.2 to strengthen the requirements to mooring lines and associated fittings for defined design environmental conditions.

The amendments and new Guidelines are expected to enter into force 1 January 2024, subject to adoption by MSC 102.

The requirements will apply to all new cargo and passenger ships. The requirements for inspection and maintenance of mooring equipment, including lines, are expected to be given **retroactive** application.

#### **Watertight integrity**

MSC 101 approved draft amendments to SOLAS Ch. II-1 to align the design criteria for watertight integrity in parts B-2 to B-4 with the probabilistic damage stability approach in parts B and B-1.

The amendments address inter alia assumptions regarding progressive flooding, valves in the collision bulkhead and watertight doors.

The amendments will apply to new ships and are expected to enter into force 1 January 2024, subject to adoption by MSC 102.

#### **Industrial personnel (IP)**

IMO is working on a new mandatory IP Code intended for cargo vessels carrying industrial personnel to and from offshore facilities and ships. The new IP Code is intended to promote consistent application of requirements by flag Administrations for such ships, and to fill the regulatory gap between SOLAS cargo ships and SOLAS passenger ships, giving credit to the capabilities of industrial personnel.

MSC 101 reconfirmed that the aggregated total maximum number of non-crew persons (passengers, industrial personnel, special personnel) which may be carried on board in order not to require compliance with the new IP code should be 12.

The work on the new IP Code will continue in the IMO sub-committee for Ships Design and Construction (SDC) in February 2020.

#### **Unified interpretations**

MSC 101 approved unified interpretations to clarify that openings for ventilation systems for closed ro-ro and vehicle spaces should be considered as flooding points in stability calculations (MSC.1/Circ. 1535, MSC.1/Circ. 1537, MSC.1/Circ. 1539).

MSC 101 also approved unified interpretations to SOLAS Ch. II-1 to clarify that liquid level monitoring systems used as flooding detection systems should also meet the safe return to port requirements under SOLAS Ch. II-2/21.4.13 (MSC.1/Circ. 1539).

The unified interpretations should be applied to ships contracted for construction on or after 1 July 2019.

#### **POLLUTION PREVENTION AND RESPONSE**

MSC 101 approved a draft MSC-MEPC circular on 2019 guidelines for the carriage of blends of biofuels and MARPOL Annex I cargoes.

MSC 101 approved a draft MSC-MEPC circular addressing delivery of compliant fuel oils by suppliers.

#### **SHIP SYSTEMS AND EQUIPMENT**

##### **Alternative design of life-saving appliances (LSA)**

SOLAS allows life-saving appliances and arrangements to deviate from prescriptive requirements, provided an equivalent level of safety is achieved and the intent of the requirements is met.

MSC 101 approved goals and functional requirements including expected performance criteria, to define the intent of the prescriptive requirements to life-saving appliances in SOLAS Ch. III for alternative designs.

The goals and functional requirements, including expected performance criteria, are listed in the new appendix 5 to the 'Guidelines on alternative design and arrangements for SOLAS Chapter II-1 and III' (MSC.1/Circ. 1212). The amendments are applicable to all cargo and passenger ships, however typically more relevant for passenger ships carrying, for example, large life boats exceeding the maximum carrying capacity of a 'standard' LSA Code life boat.

Threshold values for defining habitable environment inside the survival craft, i.e. keep CO<sub>2</sub> concentration below 5000 ppm, were not introduced at this stage but will be re-visited when corresponding SOLAS requirements are finalized.

**LSA for ships operating in polar waters**

MSC 101 approved draft interim guidelines on life-saving appliances and arrangements for ships operating in polar waters.

The draft interim guidelines outline recommendations for mitigating hazards for all ships, both new and existing, such as extended time of rescue, operation at polar service temperatures, operation in ice, operation in darkness and abandonment into ice or land.

Ventilation requirements defining habitable environment inside the survival craft are included in the guidelines.

**Fire safety of ro-ro passenger ships**

MSC 101 approved draft interim guidelines for minimizing the incidence and consequences of fires on ro-ro spaces and special category spaces of new and existing ro-ro passenger ships.

The draft interim guidelines address inter alia operational measures to reduce the risk associated with reefer units and electrical systems in general on Ro-Ro spaces, and further advice on how to best design fire safety systems on board new Ro-Ro passenger ships.

**Unified interpretations to SOLAS**

MSC 101 approved unified interpretations to SOLAS Ch. II-1 to address alternative steering and propulsion systems without a traditional rudder.

MSC 101 approved unified interpretations to SOLAS chapter II-2 on fire safety to clarify the fire risk category of spaces used for storage of urea or sodium hydroxide solutions, design criteria for CO<sub>2</sub> fire extinguishing systems for galley exhaust ducts, and performance criteria for explosion proof or intrinsically safe fire-fighters radios.

MSC 101 approved unified interpretations to SOLAS Ch. III on life-saving appliances to clarify the required number of lifebuoys fitted with a light and lifeline, and further to clarify that thorough examinations, overhauls and operational tests of launching appliances and release gear, carried out at least once every five years, shall be done in the presence of a surveyor.

**Unified interpretations to the IGC Code**

MSC 101 approved unified interpretations to the IGC Code to clarify that weather deck areas above fuel oil tanks are regarded as 'cargo area' and that water-spray system components in these areas should be designed to withstand 925 °C.

MSC 101 further approved to clarify that initial testing of dry chemical powder fire extinguishing systems should involve discharge of dry chemical powder from all monitors and hand hose lines on board, but full discharge of the installed quantity of dry powder is not required.

**WORK PROGRAMME**

The Committee agreed to the following new outputs:

**MSC - Maritime Safety Committee****Domestic ferry safety**

MSC 101 agreed to address measures to improve domestic ferry safety at MSC 102, inter alia by developing model regulations, implementation guidelines and training programmes.

**HTW – Human Element, Training and Watchkeeping****Quality of onboard training**

Develop measures to ensure the quality of onboard training of prospective officers for the attainment of Certificates of Competency.

**Mandatory seagoing services for candidates**

Develop measures to facilitate mandatory seagoing service for candidates for certification in accordance with the STCW Convention.

**SDC – Ship Design and Construction****Watertight doors on cargo ships**

Address inconsistencies in the mandatory requirements in the SOLAS, MARPOL and Load Line Conventions and the IBC and IGC Codes regarding watertight doors.

**SSE – Ship Systems and Equipment****Fire detection and alarm in control stations**

Amend SOLAS Ch. II-2 to require fire detection and fire alarm systems for control stations on cargo ships.

**Hydrostatic testing of CO<sub>2</sub> cylinders**

Amend the Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems (MSC.1/Circ.1318) to clarify hydrostatic testing of high-pressure CO<sub>2</sub> cylinders.

**Performance of lifejackets**

Review the LSA Code and resolution MSC.81(70) to address in-water performance of SOLAS lifejackets.

**Infant lifejackets on High-Speed Craft**

Harmonize the lifejacket carriage requirements in the 1994 and 2000 HSC Codes with the requirements in SOLAS chapter III.

**Simulated launching of free-fall lifeboats**

Develop design and prototype test requirements for equipment used in simulated launching of free-fall lifeboats.

**Prohibit PFOS foams for fire-fighting**

Prohibit the use of fire-fighting foams containing perfluorooctane sulfonic acid (PFOS).

**Launching of free-fall lifeboats**

Remove the applicability of the requirement to launch free-fall lifeboats with the ship making headway at speeds up to 5 knots in calm water.

**CCC – Carriage of Cargoes and Containers****Corrosivity test for solid bulk cargo materials**

Improve the reliability of corrosivity tests of solid bulk cargoes for the MHB (CR) hazard in the IMSBC Code.

**Entry procedures for cargo compressor rooms**

Review the Revised recommendations for entering enclosed spaces aboard ships (resolution A.1050(27)) regarding their application to gas carriers.

**Stability information for carriage of grain in bulk**

Amend the International Code for the Safe Carriage of Grain in Bulk (resolution MSC.23(59)) to introduce a new class of loading conditions for "specially suitable compartment, partly filled in way of the hatch opening, with ends untrimmed".

**Identification of solid bulk cargoes**

Amend the IMSBC Code to introduce a substance identification number for bulk cargoes.

**NCSR – Navigation, Communications, Search & Rescue****Inclinometers for measurement of heel angles**

Develop SOLAS amendments to make the Performance standards for electronic inclinometers (resolution MSC.363(92)) compulsory for container ships and bulk carriers.

**Mobile satellite communication services**

Review the Criteria for the provision of mobile satellite communication systems in the Global Maritime Distress and Safety System (GMDSS).

**Voyage Data Recorders (VDRs)**

Require that all new VDRs and S-VDRs installations be float free and to include the recording of both sides of communications between control stations/bridge.

**ANY OTHER BUSINESS****IQARB – International Quality Assessment Review Body**

MSC 101 noted the outcome of the inaugural meeting of IQARB in March 2019. IQARB is conceptually intended as an assessment of the audits of IACS Members' compliance with IACS' quality system QSCS, intended to aid IMO Member States in their oversight obligations under the III Code.

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## PROVISIONAL LIST OF RESOLUTIONS AND CIRCULARS

*Please note that the list and document references are provisional.*

Resolution MSC.456(101)

Amendments to SOLAS, 1974, as amended.

Resolution MSC.457(101)

Amendments to the FSS Code

Resolution MSC.458(101)

Amendments to the IGF Code

Resolution MSC.459(101)

Amendments to the LSA Code

Resolution MSC.460(101)

Amendments to the IBC Code

Resolution MSC.461(101)

Amendment to the 2011 ESP Code

Resolution MSC.462(101)

Amendments to the IMSBC Code

Resolution MSC.463(101)

Amendments to the BCH Code

Resolution MSC.464(101)

Amendments to the SPS Code

[...]

Draft Assembly resolution on interim safety measures for ships not certified under the SOLAS convention operating in polar waters

Resolution MSC.465(101)

Recommended interim measures to enhance the safety of ships relating to the use of fuel oil

Resolution MSC.466(101)

Amendments to the performance standards for the presentation of navigation-related information on shipborne navigational displays (Res. MSC.191(79))

Resolution MSC.467(101)

Guidance on the definition and harmonization of the format and structure of maritime services in the context of e-navigation.

Resolution MSC.468(101)

Amendments to promulgation of maritime safety information (Res. A.705(17), as amended)

Resolution MSC.469(101)

Amendments to world-wide navigational warning service (Res. A.706(17), as amended)

Resolution MSC.471(101)

Performance standards for float-free EPIRBs operating on 406 MHz

Resolution MSC.472(101)

Amendments to the revised recommendation on testing of life-saving appliances (Res. MSC.81(70))

[...]

Draft Assembly resolution of amendments to the use and fitting of retro-reflective material on life-saving appliances (Res. A.658(16))

MSC.1/Circ.1603

Guidance for the electronic transfer of information into and from the maritime security module of GISIS

MSC.1/Circ.1604

Interim guidelines for MASS trials

MSC.1/Circ.1605

Unified interpretations of the IGF Code

MSC.1/Circ.1606

Unified interpretations of the IGC Code

MSC.1/Circ.1607

Carriage of chapter 19 products, amended IGC Code (resolution MSC.370(93)), on ships built after 1 July 1986 and before 1 July 2016

MSC.1/Circ.1608

Procedure for the submission of documents relating to, ships' routing systems or ship reporting systems

MSC.1/Circ.1609

Guidelines for the standardization of user interface design for navigation equipment

MSC.1/Circ.1610

Initial descriptions of Maritime Services in the context of e-navigation

MSC.1/Circ.1611

Interim guidance on requirements for Fleet Safety

MSC.1/Circ.1612

Guidance for navigation and communication equipment intended for use on ships operating in polar waters

MSC.1/Circ.1613

Interim Iridium SafetyCast service manual

MSC.1/Circ.1614 Interim guidelines on life-saving appliances and arrangements for ships operating in polar waters	MSC.1/Circ.1535/Rev.1 Unified interpretations relating to the Protocol of 1988 relating to the International Convention on Load Lines, 1966
MSC.1/Circ.1615 Interim guidelines for minimizing the incidence and consequences of fires in ro-ro spaces and special category spaces of new and existing ro-ro passenger ships	MSC.1/Circ.1537/Rev.1 Unified interpretations of the 2008 IS Code
MSC.1/Circ.1616 Unified interpretations of SOLAS chapter II-2	MSC.1/Circ.1539/Rev.1 Unified interpretations of SOLAS chapter II-1
MSC.1/Circ.1617 Unified interpretations of the IGC Code	MSC.1/Circ.1416/Rev.1 Unified interpretations of SOLAS regulations II-1/28, II-1/29 and II-1/30
MSC.1/Circ.1618 Unified interpretations of SOLAS chapter III	MSC.1/Circ.797/Rev.33 List of competent persons pursuant to section A-I/7 of the STCW Code
MSC.1/Circ.1205/Rev.1 Revised guidelines for developing operation and maintenance manuals for lifeboat systems	MSC.1/Circ.1163/Rev.12 Parties to STCW, 1978, as amended, confirmed by MSC to have communicated information which demonstrates effect to relevant provisions of STCW
MSC.1/Circ.1212/Rev.1 Revised guidelines on alternative design and arrangements for SOLAS chapters II-1 and III	MSC.1/ Circ.1164/Rev.21 Information related independent evaluation submitted by Parties to STCW, 1978, as amended
MSC.1/Circ.1222/Rev.1 Guidelines on annual testing of voyage data recorders (VDR) and simplified voyage data recorders (S-VDR)	MSC-MEPC.2/Circ.[...] 2019 Guidelines for the carriage of blends of biofuels and MARPOL Annex I cargoes
MSC.1/Circ.1259/Rev.8 Long-range identification and tracking system Technical documentation (Part I)	MSC-MEPC.5/Circ.15 Delivery of compliant fuel oil by suppliers
MSC.1/Circ.1376/Rev.4 Continuity of service plan for the LRIT system	PPR.1/Circ.[...] Decisions with regard to the categorization and classification of products
MSC.1/Circ.1412/Rev.2 Principles and guidelines relating to the review and audit of the performance of LRIT Data Centres and the International LRIT Data Exchange	III.3/Circ.6 Casualty analysis and statistics
MSC.1/Circ.1364/Rev.1/Corr.1 Amendments to the Revised International SafetyNET Manual	COLREG.2/Circ.[...] New traffic separation schemes and associated measures
MSC.1/Circ.1394/Rev.2 Generic guidelines for developing IMO goal-based standards	SN.1/Circ.[...] Routeing measures other than traffic separation schemes
MSC.1/Circ.1395/Rev.4 Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire-extinguishing system is ineffective	SN.1/Circ.243/Rev.2 Guidelines for the presentation of navigation-related symbols, terms and abbreviations