

This Brief provides an overview of the more significant issues progressed at IMO's Maritime Safety Committee's 100th session which was held from 3 to 7 December 2018.

Fuel Quality and Safety

- Licensed Bunker Suppliers – The Committee considered a proposal to revise MARPOL VI, regulation 18, to replace the requirement for MARPOL VI signatory States to register bunker suppliers with a requirement to license bunker suppliers within their jurisdiction against a specified accreditation scheme. While it was recognized that the proposal would improve fuel oil quality and mitigate off specification fuel oil and the safety risks associated with poor fuel oil quality, the Committee recalled that MARPOL VI remains under the purview of the MEPC and therefore sent the proposal to MEPC for their action.
- Compliant Fuel - The Committee instructed the Sub-Committee on Pollution Prevention and Response (PPR) to develop a Circular which recommends that all Member States to take appropriate action to ensure that fuel suppliers under their jurisdiction deliver fuels that comply with the agreed specifications and applicable statutory requirements outlined in MEPC.1/Circ.875/Add.1, *Guidance on Best Practice for Fuel Oil Suppliers for assuring the quality of fuel oil delivered to ships*.
- New Work Program – The Committee agreed a new work program on the *Development of further measures to enhance the safety of ships relating to the use of fuel oil*. This effort will undertake a review of existing safety provisions for fuel oil and information concerning the safety implications associated with the use of fuel oil, with the aim of developing appropriate measures to ensure fuel safety matters are addressed by the MSC. Concrete proposals were requested to be submitted to MSC 101, in June 2019, with the view to completing this work in 2021.
- Safety implications/challenges with 2020 compliant fuels - The Committee decided that a Working Group would be convened at MSC 101, in June 2019, to review potential safety implications identified during the Intersessional Meeting held in July 2018 to progress work on consistent implementation of regulation 14.1.3 of MARPOL Annex VI. These issues are expected to become more prevalent and critically important when gauging the safety and usability of new fuels as they become available to meet the 0.50% global fuel oil sulphur limit which enters into force on 1 January 2020. Potential safety implications/challenges associated with the following fuel oil properties were noted:
 - ✓ *Stability* –Very Low Sulphur Fuel Oil which do not have the same stabilizing effect as aromatic components in current fuels can cause sludge build-up and blockage of centrifuges and filters due to the existence of paraffinic (wax) components.
 - ✓ *Compatibility Issues* – segregation of Very Low Sulphur Fuel Oil (paraffinic-based versus aromatic-based) to facilitate proper management and handling.
 - ✓ *Cold Flow Properties* –proper temperature management is needed to mitigate wax crystal formation at temperatures below the *pour point* when operating in colder regions which can lead to blockages at the filters and reduced fuel flow to the machinery plants.
 - ✓ *Acid Number* - Fuels with high acid number test results cause accelerated damage to marine diesel engines however there is no recognized correlation between an acid number test result and corrosive activity of the fuel.

- ✓ *Flashpoint* – the expectation that distillates will be supplied with flashpoints less than the 60°F SOLAS requirement not only presents an increased risk of fire and explosion, but violates SOLAS
- ✓ *Ignition and combustion characteristics* – Operational problems, engine damage and even total engine breakdown can occur when using fuels with poor ignition and combustion properties.
- ✓ *Cat fines* - abrasive wear of cylinder liners, piston rings and fuel injection equipment can occur if not sufficiently reduced by fuel treatment systems
- ✓ *Low-viscosity distillates* – is highly temperature dependent and requires proper temperature management to avoid viscosity less than 2cSt which can challenge the performance of the fuel pumps
- ✓ *Fuel Blending* - clear cause and effect between blend components and associated operational problems is limited and there is a lack of statistical studies available to know which components are typically found in fuels and at what concentration

Maritime Autonomous Surface Ships (MASS)

- Methodology - Based on a preliminary methodology that was developed at MSC 99 in June, the Committee considered the report of a Correspondence Group which applied this methodology in a regulatory scoping exercise(RSE) against SOLAS and Load Line Regulations, including their mandatory Codes, currently in force considering four preliminary degrees of autonomy of unmanned MASS
 1. Ship with automated processes and decision support: Seafarers are on board to operate and control shipboard systems and functions. Some operations may be automated and at times be unsupervised but with a seafarer on board ready to take control.
 2. Remotely controlled ship with seafarers on board: The ship is controlled and operated from another location. Seafarers are available on board to take control and to operate the shipboard systems and functions.
 3. Remotely controlled ship without seafarers on board: The ship is controlled and operated from another location. There are no seafarers on board.
 4. Fully autonomous ship: The operating system of the ship is able to make decisions and determine actions by itself (artificial intelligence).
- Regulatory Scoping Exercise – RSE consists of two-steps:

First, regulations are identified to determine if they:

 - A. apply to MASS and prevent MASS operations; or
 - B. apply to MASS and do not prevent MASS operations and require no actions; or
 - C. apply to MASS and do not prevent MASS operations but may need to be amended or clarified, and/or may contain gaps; or
 - D. have no application to MASS operations

Second, determine the most appropriate way of addressing MASS operations through four options:

 - I. equivalences as provided for by the instruments or developing interpretations; and/or
 - II. amending existing instruments; and/or
 - III. developing new instruments; or
 - IV. none of the above as a result of the analysis.

After considering proposals to mitigate the challenges and difficulties identified by the Correspondence Group the Committee decided that the agreed that the RSE would initially be undertaken at high level, instead of regulation-by-regulation, and focus on degrees of autonomy No.2 and No.3, indicated above. It was agreed to postpone consideration of degrees of autonomy No.1 and No.4 to a later stage. An intersessional MSC working group is scheduled to be convened in September 2019 to progress this work.

- Mandatory Instruments - the RSE will consider SOLAS, 1972 COLREGS, 1966 Load Line Convention, 1979 Maritime Search and Rescue Convention, 1971 Special Trade Passenger Ships Agreement, 1972 Convention for Safe Containers, 1978 STCW, 1995 STCW-Fishing Vessels and the 1969 Tonnage Convention.
- Interim Guidelines for MASS Trials – principles were tentatively agreed to be taken into account when developing Guidelines on MASS trials as a single document for Administrations, industry and other relevant stakeholders. The Guidelines should be generic, not overly prescriptive, but goal-based, and should be specific for each trial to be conducted (e.g. mooring, navigation).

Adopted Amendments

- Amendments to the 2008 SPS Code – the Committee approved revisions of the Record of Equipment under the *2008 Code of Safety for Special Purpose Ships* by replacing references to "Inmarsat" with "*a recognized mobile satellite service*" (any service which operates through a satellite system and is recognized by IMO for use in the global maritime distress and safety system, GMDSS). The amendments take effect for certificates renewed on or after 1 January 2020.

Approved Amendments

- IGF Code Revision – The Committee approved revisions to the Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels, IGF Code, which will apply to new cargo ships ≥ 500 gt and passenger ships using low-flashpoint fuels. It is anticipated that these revisions will be adopted at MSC 101 in June 2019 and that the following dates will be assigned at MSC 101 to define new ships:
 - a building contract placed on or after 1 January 2021; or
 - in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction on or after 1 July 2021; and
 - regardless of the building contract or keel laying date, the delivery is on or after 1 January 2025.

The revisions include the following provisions:

- ✓ where cargo tank insulation and location make the probability for the tank contents to be heated up due to an external fire very small, higher loading limits than calculated using the reference temperature may be permitted, but not more than 95%.
 - ✓ Gaseous fuel pipes, except fully welded fuel gas vent pipes led through mechanically ventilated spaces, which pass through enclosed spaces, except piping in fuel preparation rooms or spaces surrounding all tank connections and valves, shall be protected by a secondary enclosure which may be a ventilated duct or a double wall piping system.
 - ✓ Exhaust systems of internal combustion engines of piston type shall be equipped with explosion relief systems unless designed to accommodate the worst case overpressure due to ignited gas leaks or justified by the safety concept for the engine.
 - ✓ Crediting the use of fuel storage hold spaces as a cofferdam for type C tanks that are not located directly above category A machinery spaces or other rooms with high fire risk.
- FSS Code Revision - The Committee approved the draft amendments to the FSS Code which clarify the location of the valve that isolates the inert gas main from the external supply of inert gas. Adoption of this amendment is scheduled for MSC 101 in June 2019.

- LSA Code Revision - The Committee approved the draft amendments to paragraph 6.1.1.3 of the LSA Code with a view to adoption at MSC 101 in June 2019. The revision permits, on cargo ships, the dedicated rescue boat to be manually launched (in lieu of being fitted with stored mechanical power) provided its mass does not exceed 700 kg in fully equipped condition without the crew and that a means is arranged to bring and hold the craft against the ship's side so that persons can embark safely. A decision on the application statement of these provisions will be decided prior to adoption at MSC 101 in June 2019.
- IBC Code Revisions - the Committee approved a comprehensive set of revisions for the carriage requirements of products in Chapter 17 of the IBC Code, primarily as a consequence of the revised Chapter 21 on the criteria for assigning carriage requirements for products subject to the IBC Code. Additionally, specific products are now required to undergo prewash procedures under MARPOL Annex II. Chapter 15 was revised to require hydrogen sulphide detection equipment shall be provided on board ships carrying bulk liquids prone to formation. Similar amendments were approved for the BCH Code. Entry into force of the amendments is subject to adoption by MSC 101 and MEPC 74 in 2019.
- Amendments to the 2011 ESP Code – the Committee agreed to amendments to the *International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011* (2011 ESP Code). In addition to numerous editorial revisions providing consistent terminology, the more substantive amendments are:
 - ✓ clarify the responsibilities and working arrangements where the 2011 ESP Code requires at least two exclusive surveyors to attend on board at the same time to perform the required survey;
 - ✓ provide consistency with IMO goal-base standards, GBS, regime (e.g., number and location of thickness measurements to be taken, acceptance criteria for corrosion and renewal of structure and longitudinal strength evaluation)
 - ✓ clarify specific elements that are subject to close-up survey in tanks on one side of the ship;
 - ✓ specify conditions for using hydraulic arm vehicles or aerial lifts for the close-up survey

Because the consolidated version of the draft 2019 ESP Code has not yet been finalized, it is expected that MSC 101 will approve these amendments in June 2019, with a view to subsequent adoption at MSC 102 in 2020, following the adoption of the 2019 ESP Code by the 31st Assembly in 2019.

Miscellaneous

- High manganese austenitic steel - The Committee approved a new MSC circular containing Interim guidelines on the application of high manganese austenitic steel for cryogenic service in the design and fabrication of cargo and fuel tanks complying with the IGC and IGF Codes.
- Fixed water-based fire-fighting systems – The Committee approved draft amendments to MSC.1/Circ.1430 on Revised guidelines for the design and approval of fixed water-based fire-fighting systems for ro-ro spaces and special category spaces, with a view to issuing the amended Revised guidelines as MSC.1/Circ.1430/Rev.1. The revision specifies:
 - ✓ how full control of the fixed water-based fire-fighting systems from a single room outside the protected space should be achieved; and
 - ✓ that sprinklers or nozzles be arranged so that they are not exposed to damage by cargo while ensuring undisturbed spray is distributed over and between all vehicles or cargo in the area being protected.

The revised Guidelines are recommended to be applied to systems installed in ro-ro spaces and special category spaces on or after 1 January 2021.

- Goal-based ship construction standards (GBS) - The Committee approved revisions to the GBS Guidelines applicable to the rules for Bulk Carriers and Oil Tankers. The revised Guidelines apply to new or revised rules submitted for compliance on or after 1 January 2020, include revisions agreed during the last MSC session as well as the following revisions agreed during this session of MSC taking into account the experience gained during recent GBS audits for initial and maintenance verification.
 - ✓ Information to be provided when a submitter uses third-party rules, procedures and technical documentation within their Rules and/or GBS compliance package; and
 - ✓ The handling of confidential and/or propriety information.
- Goal-based standards safety level approach - The Committee approved Interim guidelines for development and application of the IMO goal-based standards safety level approach (SLA). SLA is the structured application of risk-based methodologies for IMO rule-making process through the formulation of goals and functional requirements.
- LSA Code Interpretation - This interpretation provides clarification on the conditions for dispensing with the fitting and specific arrangement of a sufficient number of buoyant oars to make headway in calm seas the provision under paragraph 4.4.8.1 of the LSA Code. The dispensation applies to lifeboats equipped with two independent propulsion systems, where the arrangement consists of two separate engines, shaft lines, fuel tanks, piping systems and any other associated ancillaries. For all other aspects, the lifeboat is to comply with paragraph 4.4.8 of the LSA Code. Amendments to paragraph 4.4.8.1 of the LSA Code, reflecting the above interpretation, were approved by the Committee and are subject to adoption at MSC 101 in June 2019.
- Guidelines on Human Fatigue – The Committee approved revised Guidelines on Fatigue which aim to provide for more practical and non-academic text so as to be more user-friendly. In providing information on the causes and consequences of fatigue, and the risks it poses to the safety and health of seafarers, the revised Guidance aims to assist all stakeholders in the mitigation and management of fatigue.