The IMO Marine Environment Protection Committee (MEPC) held its 68th session from 11 to 15 May. This Brief provides an overview of the more significant issues progressed at this session. A full report of the meeting will be included in the next ABS International Regulatory News Update.

Ballast Water Management

Status of Ratification

The Convention has been ratified by 44 States having 32.86% GT of the world fleet. Conditions for entry into force have been met for the threshold of 30 States, but an additional 2.14% tonnage is still needed to meet the 35% GT of the world fleet threshold.

BW Management Convention Implementation

Anticipating the approaching entry into force of the BWM Convention, the Committee agreed to develop measures to facilitate the implementation of the Convention using an agreed “Roadmap” which includes:

- **Non-Penalization** of ships fitted with treatment systems type approved under the current G8 Guidelines (MEPC.174(58)); the so-called *early movers*. Specifically:
  - systems approved in accordance with the current G8 Guidelines should not be required to be replaced when the revision of the G8 Guidelines occurs or due to occasional lack of efficacy for reasons beyond the control of the shipowner; and
  - *early movers* operating ships with properly installed, maintained and operated systems that are approved in accordance with the current G8 Guidelines should not be penalized (sanctioned, warned, detained or excluded) solely due to an occasional exceedance of the D-2 standard provided the self-monitoring system indicates that the treatment process is working properly.

- **Expanded trial period** associated with the Guidance on ballast water sampling and analysis (BWM.2/Circ.42) so as to provide for an experience-building period to collect information on treatment approaches that do not meet the D-2 standard, the exceedance amount and reasons for the exceedance.

Trial Sampling/Analysis Circular

The Committee approved a Circular containing general recommendations on methodologies and approaches to sampling and analysis to test for compliance with standards D-1 (ballast water exchange) and D-2 (biological standard for treatment systems) of the Convention. Testing for compliance is performed in two steps using representative samples of the whole discharge of the ballast water from any single tank or any combination of tanks being discharged: (1) an indicative analysis - a relatively quick indirect or direct measurement of parameters that are comparable to the D-2 standard; and (2) a detailed analysis - a more complex compliance test that directly measures the concentration of viable organisms of a representative ballast water sample.
Type Approval Guidelines (G8)

Pursuant to the initiative to revise the G8 Guidelines to be more robust, the Committee agreed to request submission of information on 10 specific issues including the effect of temperature in cold and tropical waters on treatment efficacy, differences between type approval protocols, incorporation of control and monitoring equipment, enhanced information to be included in type approval test reports (e.g., documentation related to scaling) and verification of minimum storage times for ballast water. The Committee agreed to re-establish the Correspondence Group that will discuss a number of issues including:

- Increased transparency of treatment system’s operating parameters in the Type Approval Certificate (e.g., salinity and temperature ranges).
- Levels of suspended solids to be used in testing.
- Enhanced reporting of operational parameters (e.g., power consumption, mechanical reliability and replacement of components and consumables).
- Standardization of protocols for testing facility validation.
- Identifying bypass arrangements and circumstances when treatment bypass may occur.
- Modification of specifications for monitoring of hazards and the safe operation of treatment systems.

Due to concerns raised that many Administrations are not allowing the discharge of treated ballast water from ships during the shipboard testing period under the G8 Guidelines, the Committee will consider developing an MEPC resolution which urges Administrations to allow such discharges.

Draft Amendments of BWM Convention

The proposed amendments to regulation B-3 of the BWM Convention, which reflect the implementation scheme in resolution A.1088(28), were drafted for consideration at MEPC 69. Additionally, an alternative, slightly simplified version of the amended regulation was also developed.

The Committee noted that the intended five year period for D-2 compliance (associated with the distribution of current IOPP certificate expiration dates) might reduce to as little as one year if there was a move to renew IOPP certificates prematurely; which could present significant implementation problems with respect to treatment system and yard availability for retrofit. This issue will be discussed at MEPC 69 in March 2016.

Ballast Water Management Systems (BWMS) Approvals

It was reported that 57 ballast water management systems have been type approved to comply with the Convention’s D-2 biological standard. Final approval was granted to:

- Ecomarine-EC submitted by Japan (MEPC 68/2/5), which consists of filtration (50 μm), disinfection by in situ electrolysis, followed by neutralization with sodium thiosulfate to not more than 0.2 mg/L (as Cl₂). The Active Substance, sodium hypochlorite, is produced where water temperature and the salinity are 5 to 35°C and above 1 PSU, respectively. The maximum concentration of sodium hypochlorite after being dosed into the main line is controlled at 2 mg/L TRO as Cl₂.

Basic approval was granted to five systems:

- NK-Cl BlueBallast System submitted by Republic of Korea (MEPC 68/2), which treats seawater, brackish water and fresh water without using filtration. A storage device is used to dissolve the Active Substance (sodium dichloroisocyanurate) with water to create hypochlorous acid, hypochlorite ion and isocyanuric acid. This is injected into the ballast water to be treated using an injection pump, injector and pipeline static mixer. Its concentration is maintained at not more than 15 mg/L as Cl₂ during treatment. Prior to discharge, the treated water is automatically neutralized with sodium thiosulfate so that total residual oxidant concentration is not more than 0.2 mg/L as Cl₂.
• **ECS-HYCHLOR™ System** submitted by Republic of Korea (MEPC 68/2/1), which employs a backwash filter unit mounted directly in the main ballast pipeline to eliminate the organisms and suspended matter larger than 40 μm. Auto-back-flushing occurs when the difference between inlet and outlet pressure of the filter exceeds 0.5 bar. After filtration, the Active Substance, sodium hypochlorite (generated by the electrochlorination unit), is injected into the ballast water at a concentration of not more than 15 mg/L as Cl₂ during treatment. Prior to discharge, the treated water is neutralized with sodium thiosulfate so that the concentration is not more than 0.2 mg/L as Cl₂.

• **ECS-HYCHEM™ System** submitted by Republic of Korea (MEPC 68/2/2), which employs a backwash filter unit mounted directly in the main ballast pipeline to eliminate the organisms and suspended matter larger than 40 μm. Auto-back-flushing occurs when the difference between inlet and outlet pressure of the filter exceeds 0.5 bar. The Active Substance, sodium dichloroisocyanurate, is dissolved with water to generate hypochlorite and sodium isocyanuric acid. Its concentration is maintained at not more than 18 mg/L as Cl₂ during treatment. It is neutralized with sodium thiosulfate so that the total residual oxidant concentration prior to discharge of treated water is not more than 0.2 mg/L as Cl₂.

• **ECS-HYBRID™ System** submitted by Republic of Korea (MEPC 68/2/3), which employs a backwash filter unit mounted directly in the main ballast pipeline to eliminate the organisms and suspended matter larger than 40 μm. Auto-back-flushing occurs when the difference between inlet and outlet pressure of the filter exceeds 0.5 bar. After filtration by the filter unit, the remaining organisms are disinfected by UV radiation, which is automatically adjusted to maintain constant intensity. After UV, the electrolysis unit disinfects the remaining organisms by generating hypochlorous acid and hypobromous acid with a maximum concentration of TRO of 15 mg/L TRO as Cl₂. Before discharging overboard, the treated water is passed through the UV unit again and then neutralized by using sodium thiosulfate. The maximum allowable discharge concentration is 0.2mg/L TRO as Cl₂.

• **VARUNA BWT System** submitted by Singapore (MEPC 68/2/6), which combines filtration (a 40μm self-cleaning backwash), electrochemical treatment and neutralization processes that are monitored by a control unit to optimize the treatment of ballast water. Primary and secondary treatment is performed during ballast intake and tertiary treatment is carried out during deballasting.

**Air pollution and energy efficiency**

**Operational efficiency standards for international shipping**

• In considering a data collection system for fuel consumption, the Committee has not yet decided if the system would be mandatory or voluntary. However, the Committee agreed that the following information should be reported by the registered owner for their ships of 5000 GT and above on international voyages: Total annual fuel consumption, by fuel type (e.g., HFO, MGO and MDO), in metric tons, IMO number, Ship type, Gross and Net Tonnage, Deadweight, Total installed power (main and auxiliary engine [kW]), EEDI (if applicable) and Ice class (if applicable). If the collection of data becomes mandatory, only the relevant sections of the SEEMP would be reviewed to determine that it includes a methodology for the collection and reporting of fuel consumption data. While there was some support for the development of guidelines to facilitate consistency, quality and robustness of the reported data, it was ultimately agreed the responsibility rests with the flag Administration to verify the data submitted and to decide on how this verification is to be accomplished. Reported data would not be included in or amended to the International Energy Efficiency Certificate – only a Statement of Compliance would be issued to the ship after complying with the provisions of the system for a given year as evidence for PSC verification.
Further discussions are required on data other than fuel consumption to be reported under the system. Aside from the determination of whether data collection will be mandatory or voluntary, the group is considering the inclusion of transport work and/or proxies for transport work. This is clearly the most substantial outstanding item. There is a general view for consideration of Distance Traveled and Service Hours as potential proxies that may facilitate a reasonable calculation of vessel efficiency. Expanding the discussion to cargo weight/volume would afford more precise efficiency calculations, but this comes at a significant cost in terms of complexity and burden. Additionally, this raises issues that are commercially sensitive. It was agreed that confidentiality of data reported and subsequently extracted from the database requires further consideration. An intersessional working group will progress this initiative.

**Engine Certification**

- The Committee approved amendments to the NOx Technical Code for certifying dual fuel and gas-fuel engines to take into account resolution MEPC.258(67) that revises the definition of “marine diesel engines” in MARPOL VI to include gas-fueled engines installed on ships constructed on/after 1 March 2016. This builds on previous amendments made to the NTC to enable certification of dual fuel and gas-fuel engines, which is particularly relevant for certification to Tier III, and in particular clarifies application of the NTC to “gas only” engines.

- The Committee approved Guidance on the application of Tier III NOx requirements for dual fuel and gas-fuel engines. These include “gas only” engines where ignition is initiated by a spark and dual fuel engines which use gas fuel in a pre-mix combustion process with liquid fuel as the pilot ignition source when in gas mode. The Guidelines recognize that the coast/port State has governance when ships fitted with these engines, which use boil-off gas from cargo tanks, proceed through an ECA to/from a dry dock or on delivery from a ship yard where gas is not available due to the lack of cargo. The Guidelines recommend that auxiliary control devices (used, for example, during low load operation or during maneuvering when liquid fuel exceeds the maximum amount used during the certification cycles) should be denoted in the engine’s Technical File and recognizes that such devices are part of the framework limiting dual fuel engine operation in gas mode.

- The Committee approved amendments to MARPOL VI, Regulation 13.5, concerning the record keeping requirements for engines that are certified to Tier II and to both Tier II and Tier III and installed onboard ships constructed on/after 1 January 2016 which operate within NOx ECAs. This record keeping is to be in a logbook “as prescribed by the Administration” consistent with that required for fuel sulphur changeover required by Regulation 14.6. Guidance on Tier III implementation suggests that this NOx changeover procedure should be detailed in the NOx Technical File.

**Fuel Oil Matters**

- **Worldwide Average Sulphur Content** - For 2014, the average sulphur content of the tested residual fuels increased slightly from 2.43% to 2.46%. The three-year rolling average of the sulphur content decreased to 2.47% from 2.53% in 2013.

- **Availability** - Under the provisions of MARPOL VI, Regulation 14, the availability of fuel oil to meet the global 0.5% sulphur limit in 2020 or 2025 is to be determined by the Committee in 2018. MEPC 68 requested the IMO Secretariat to establish a Steering Committee (regionally represented by Member States) to begin a review of the availability of 0.5% sulphur fuel oil by 1 September 2015 under agreed terms of reference with a view to submission of a report to MEPC 70 in 2016. The demand for compliant fuel oil is to be determined based on bottom-up modeling (fuel consumption and emissions from individual ship movements) and the supply of compliant fuel oil will include geographical fuel availability based on current and projected refinery capacity.
• **Sampling Guidelines** – Although in-situ sampling of fuel oil being used is not required or addressed under MARPOL Annex VI, the Committee recognized that some port State Control regimes are carrying out such sampling according to their unique procedures to verify compliance with sulphur limit requirements. There has been an increased focus on compliance following the 0.10% sulphur limit that took effect in ECAs on 1 January 2015. Therefore, the Committee agreed to proceed with the development of IMO guidelines to facilitate a consistent and safe approach when sampling fuel oil being used on board ships during inspections. However, amendments to MARPOL Annex VI for inclusion of requirements for standardization of sampling points requires further proposals for justification.

• **Quality Control** - The Committee considered draft non-mandatory guidelines for Governments to apply to enhance the quality control of marine fuel oil suppliers within their jurisdiction and to consider challenges under current legal frameworks which may limit some Governments’ ability to implement such controls. The draft guidelines proposed a three-level approach to apply to determine the quality of the supplier. However, this was met with significant objection by ship owner/operator organizations and several Member States which proposed that a best practice needs to be developed and that further review of MARPOL Annex VI needs to be undertaken with respect to implementing requirements and obligations of fuel oil suppliers. The majority of those who spoke were of the view that the regulatory framework is not adequate and needs revision. A correspondence group has been reestablished to further consider these issues as well as the illegal blending of chemical waste in bunker fuel oil.

**EEDI Guidelines**

The Committee approved amendments to:

• The 2013 Interim Guidelines for determining minimum propulsion power to maintain the manoeuvrability of ships in adverse conditions, MEPC.232(65). The amendments revise the Level-1 minimum power assessment criteria for bulk carriers (now divided into two sizes – above and below 145k dwt) and tankers to make them significantly more stringent. However, since the Level-2 assessment criteria remain unaltered, the impact of the new, more stringent Level-1 assessment criteria are thought to be minimal. When the Level-1 assessment test fails, the option to use the unaltered Level-2 assessment criteria is still available. When meeting the required EEDI, a ship is to meet the minimum propulsion power requirement in order to assure that the ship can safely maneuver under adverse weather conditions. The installed power is assessed either with Level-1 criteria or Level-2 criteria. The Level-1 criteria are based solely on installed engine horsepower, which is thought to be sufficient from an historical perspective. The Level-2 criteria is based on ships’ maneuverability characteristics under adverse weather conditions.

• The 2014 Guidelines on survey and certification of the Energy Efficiency Design Index (EEDI), MEPC.254(67) refer to updates of both an ITTC Recommended Procedure and the ISO 15016:2015 standard. Since the ISO standard has been harmonized with the latest, updated version of the ITTC Recommended Procedure, they are now referenced as having equally preferred status. The effect on EEDI figures calculated with either of these updated standards is considered minimal. These Guidelines recommend application on/after 1 September 2015.

• The 2014 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships. The amendments correct an internal inconsistency concerning the reference speed, capacity and power of the main and auxiliary engines used for determining the attained EEDI for LNG carriers.
Miscellaneous

MARPOL Annex I Amendments

The Committee adopted amendments to MARPOL Annex I, Regulation 12, which address oil residue (sludge) arrangements. The regulation has been substantially restructured and simplified to incorporate existing Unified Interpretations relating to means of disposal, interconnections and tank cleaning arrangements. However, the revision no longer allows for existing arrangements where an oil residue (sludge) tank may have discharge connections to oily bilge water holding tank(s), tank top or oily water separators, as could be allowed under MEPC.1/Circ.753/Rev.1. Modifications that may be required to ships constructed before 1 January 2017 with MEPC.1/Circ.753/Rev.1 arrangements are to be completed no later than the first renewal survey carried out on or after 1 January 2017.

Polar Code

The Committee adopted the environment-related provisions of a new Polar Code and associated amendments to MARPOL Annexes I, II, IV and V which are scheduled to enter into force on 1 January 2017. An MEPC Circular on Guidance for issuing revised certificates and for revising manuals and record books under MARPOL Annexes I, II and V of MARPOL for compliance with environment-related provisions of the Polar Code was approved. A summary of the new Code is provided in ABS’ International Regulatory News Update, Feb 2015, available at http://www2.eagle.org/content/dam/eagle/regulatory-news/2015/MEPC67_Update_r1.pdf.