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IMO Pollution Prevention and Response Eleventh Session (PPR 11)

Summary Report

Executive Summary

The following was agreed at PPR 11:

- **Safety and pollution hazards of chemicals and preparation of consequential amendments to the IBC Code**
 - A review and update of the carriage requirements in the MEPC.2 Circular *Provisional Categorization of Liquid Substances in Accordance with MARPOL Annex II and the IBC Code* (which was issued by ESPH on 1 December 2023 as MEPC.2/Circ.29).
 - A draft revised MEPC.1/Circ.590 on *Revised tank cleaning additives guidance note and reporting form* (expected to be MEPC.1/Circ.590/Rev.1 in October 2024).
- **Reduction of the impact on the Arctic of Black Carbon emissions from international shipping**
 - Draft *guidance on best practice on recommendatory goal-based control measures to reduce the impact on the Arctic of Black Carbon emissions from International Shipping* (expected to be approved at MEPC 82, October 2024).
 - Draft *guidelines on recommendatory Black Carbon emission measurement, monitoring and reporting* (expected to be approved at MEPC 82, October 2024).
- **Development of amendments to MARPOL Annex VI and the NOX Technical Code on the use of multiple engine operational profiles for a marine diesel engine including clarifying engine test cycles**
 - Draft amendments to the *NOx Technical Code* and consequential amendments to MARPOL Annex VI to, inter alia, facilitate engines with multiple operational profiles. (If adopted by MEPC 83 in the first half of 2025 the amendments will enter force in the second half of 2026.)
- **Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters**
 - Draft *guidelines on mitigation measures to reduce risks of use and carriage for use of HFO as fuel by ships in Arctic waters*. (expected October 2024, with an invitation to Member States to use the Guidelines early)
- **Follow-up work emanating from the Action Plan to address marine plastic litter from ships**
 - Draft Circular on *Recommendations for the carriage of plastic pellets by sea in freight containers* (expected to be approved at MEPC 81, March 2024).
 - Draft *best practice guidelines to clean up spills of plastic pellets* (expected to be recommended for early consideration at MEPC 81 and anticipated approval at MEPC 82, October 2024).

Introduction

PPR 11 took place 19-23 February 2024. This report summarises discussions which are significant to Lloyd's Register's work with our customers.

Safety and pollution hazards of chemicals and preparation of consequential amendments to the IBC Code

Safety and pollution of chemical hazards

PPR 11 concurred with the next edition of the MEPC.2 Circular on the *Provisional categorisation of liquid substances in accordance with MARPOL Annex II and the IBC Code (MEPC.2/Circ.29)* which was issued on 1 December 2023. The following carriage requirements and amendments to the circular were made in:

- For inclusion in list 1 for validity for all countries and no expiry date (Pollution Category, Hazards, Ship Type, Tank Type):
 - "Pongamia/Karanja seed oil, crude" (Y, S/P, 2, 2G)
 - "Dimethyl carbonate" (Z, S/P, 3, 2G)
 - "Alkylbenzenes mixtures (containing naphthalene) (amended)" (X, S/P, 2, 2G)
 - "Alcohols, C12-14 ethoxylated propoxylated" (Y, S/P, 2, 2G)
 - "Olefins (C13+, all isomers) (amended)" (Y, S/P, 2, 2G)
 - "1-Dodecene (amended)" (Y, P, 3, 2G);
- A variety of products for inclusion in list 3 with validity for all countries and with no expiry date, along with consequential additions to list 5;
- A variety of cleaning additives found to meet the requirements of regulation 13.5.2 of MARPOL Annex II; and
- Finally, deletions to products currently within Lists 2 and 3 because they are either no longer shipped, are shipped under generic entries in chapter 17 of the IBC Code or meet the criteria for complex mixtures considered to be a MARPOL Annex I cargo.

Revision of MEPC.1/Circ.590 Revised tank cleaning additives guidance note and reporting form

Having considered a need to provide more information to manufacturers and to ensure a more consistent approach in the assessments, PPR previously agreed to revise MEPC.1/Circ.590 *Revised tank cleaning additives guidance note and reporting form*. ESPH 29 finalised the revised circular which PPR 11 agreed with a view to approval at MEPC 82 (October 2024) as MEPC.1/Circ.590/Rev.1. This will be used by manufacturers in the submission of data through their Administrations for evaluation by the ESPH Technical Group.

Within the revised circular the following clause is included:

"Commercially-branded cleaning additives will be listed, including the manufacturer, and with an expiry date of seven years. Pure products will be listed separately in annex 10 without manufacturer for use by all manufacturers without an expiry date."

As a consequence of introducing an expiry date for commercially branded cleaning additives evaluated in accordance with the revised guidance, PPR agreed to re-evaluate the cleaning additives currently listed in annex 10 of the MEPC.2/Circular.

Implications due to the lack of toxic vapour detection equipment on daily operation of chemical tankers

Recalling the lack of availability of toxic vapour detection equipment for many products in the revised chapter 17 of the IBC Code that were newly indicated as toxic, PPR considered ESPH 29's review of the matter.

ESPH did not pursue the proposal made to PPR 10 which would have allowed for an alternative ventilation procedure in lieu of using vapour detection equipment noting PPR 10 concluded that approach was outside the scope of this agenda item.

PPR noted that CCC 9, considered a similar proposal for an alternative means to determine the safety of tank atmospheres which had carried toxic products without sufficient detection equipment and that CCC agreed to consider this after ESPH's further work.

PPR 11 agreed instead that ESPH will progress the matter with three concurrent workstreams:

- Collecting available information on the identified products;
- Continue researching and collecting information on available toxic vapour detection equipment to identify products that could be removed from the list; and
- Consider additional approaches for addressing the remaining products on the list.

Accordingly, PPR invited CCC to note that ESPH had agreed to the three workstreams above.

Amendments to MARPOL Annex II in order to improve the effectiveness of cargo tank stripping, tank washing operations and prewash procedures for products with a high melting point and/or high viscosity

Proposed Prewash procedure

PPR considered the further information provided, since the output was agreed at MEPC 79, for a prewash procedure to support MARPOL Annex II regulation 13.7.1.4, specifically to improve Appendix 6 of that Annex - *Prewash Procedures*.

Noting the lack of substantive proposals to this session, PPR forwarded the matter to ESPH 30 (meeting in October 2024) for further consideration and to advise PPR 12 on how to proceed.

Development of guidance on matters relating to in-water Cleaning

PPR considered various submissions on the development of in-water cleaning guidelines. There was no discussion on modification of the *2023 Biofouling Guidelines* (MEPC.378(80)) as it was determined to be out of scope.

Establishment of a Correspondence Group on In-Water Cleaning Guidelines

Terms of reference were agreed, and an intersessional Correspondence Group (CG) established to develop draft guidelines on In-Water cleaning, including:

- planning, conducting and reporting on in-water cleaning operations, including documenting and mitigating any damage to anti-fouling coatings;
- verification and testing of in-water cleaning systems, including compatibility with anti-fouling coatings, and, if feasible, measurable performance criteria such as on removal, capture and effluent contents;
- conducting pre-cleaning and post-cleaning inspections; and,
- verification or other form of expectations for in-water cleaning service providers;

The CG will report back to PPR 12, when these guidelines are anticipated to be finalised ahead of approval at MEPC 83 in 2025.

Reduction of the impact on the Arctic of Black Carbon emissions from international shipping

Draft guidance on best practice on recommendatory goal-based control measures to reduce the impact on the Arctic of Black Carbon emissions from International Shipping

PPR finalised the guidelines which are anticipated to be adopted by MEPC 82 in October 2024 for application thereafter. These non-mandatory guidelines are intended to be used by ships operating in the Arctic to reduce their Black Carbon emissions in or near that region.

The guidelines contain a series of technology options which can be deployed by ships transiting the Arctic to reduce Black Carbon emissions included as a table of "Technology options, measures, applicability and other considerations for Black Carbon emission reduction for existing ships". It was understood that these are intended for information purposes to illustrate the technical methods available in pursuing Black Carbon emissions reduction and not a means to an end, and accordingly, other options may be available to operators.

Draft guidelines on recommendatory Black Carbon emission measurement, monitoring and reporting

PPR finalised the guidelines which are anticipated to be adopted by MEPC 82 in October 2024 for application thereafter. These guidelines specify recommendations for measuring, monitoring and reporting of Black

Carbon emissions from marine diesel engines or exhaust gas treatment systems, which will be used by the IMO to further consider development of recommendations and regulations to reduce the impact on the Arctic of Black Carbon emissions.

These guidelines apply to marine diesel engines with a power output of more than 130 kW. Whilst the guidelines are voluntary, ships which do apply them are encouraged to report the Black Carbon emissions data to their Administration annually which will be forwarded to the IMO.

Evaluation and harmonization of rules and guidance on the discharge of discharge water from EGCS into the aquatic environment, including conditions and areas

Database of local/regional regulations on EGCS discharges

PPR invited the IMO Secretariat to consider methods of implementing a publicly accessible part of the IMO's Global Integrated Shipping Information System (GISIS) to provide ship operators with a single source of information regarding local and regional restrictions related to Exhaust Gas Cleaning Systems (EGCS) use. The intention being that this would provide a database to be populated by Member States to ensure the most accurate information possible.

PPR also noted that the existing National Maritime Legislation module within GISIS can already be used to report national legislation to the IMO, which may include EGCS controls and limitations. However, this module does not currently allow for public review of national legislation.

Emissions factors within the 2022 Guidelines

The 2022 *Guidelines for Risk and Impact Assessments of the Discharge Water from Exhaust Gas Cleaning Systems* (MEPC.1/Circ.899) refer to representative emission factors (without currently including such factors) for environmental risk assessment of the discharge water from EGCS. Accordingly, PPR agreed to invite the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) Task Team on EGCS to conduct further work on the matter. Specifically, to assess the methodology used to collect data and establish such emission factors. These factors will be used by Member States in their assessment of unacceptable risks posed by the continued acceptance of EGCS within waters in their jurisdiction.

To take this work forward, PPR invited Member States and International Organisations to:

- Submit data to a future session relating to the development of representative emission factors;
- Submit proposed terms of reference for the re-establishment of the GESAMP Task Team on EGCS to MEPC 82 (September); and
- Consider providing financial contributions to enable the re-establishment of the GESAMP Task Team on EGCS.

MARPOL regulations on use of EGCS and associated discharges

PPR was unable to conclude a way forward concerning regulations and invited Member States to work intersessionally to find a way forward and submit proposals to a future session.

Development of amendments to MARPOL Annex VI and the NOx Technical Code on the use of multiple engine operational profiles for a marine diesel engine including clarifying engine test cycles

Application

PPR finalised draft amendments to the NOx Technical Code (NTC) and consequential draft amendments to MARPOL Annex VI. These amendments will apply to engines (individual engines or an engine group/family) not certified on or after the entry into force of the amendments (where it is anticipated that the amendments will be adopted by MEPC 83 which is likely to be in the first half of 2025 and subsequent entry into force 16 months later - second half of 2026).

The draft amendments clarify that engines installed on ships currently in-service are not subject to the amendments, except in the case of substantial modifications.

The draft amendments apply differently to engines installed onboard ships constructed before and after 1 January 2000.

For installations on board ships constructed before 1 January 2000 the amendments apply to engines which undergo a substantial modification.

For installations on board ships constructed on or after 1 January 2000 the amendments apply to engines which undergo a substantial modification if an auxiliary control device is used and/ or the engine has multiple operational profiles.

Auxiliary Control Devices (ACD)

The draft ACD-related amendments are not intended to create new requirements but clarify their application where, to date, there have been no explicit provisions in the Code even though they are commonly used. The amendments require that a rational emission control strategy is to be applied to all NOx certified engines. A rational emission control strategy is the strategy at any time an auxiliary control device is not active that ensures the emission values at the individual mode points, giving the weighted specific emission value, are representative of the emission values during normal operation of the engine.

Further, the draft amendments require all ACDs to be declared and their purpose be justified, recalling an ACD is any device or strategy that will protect the engine against operating conditions that could result in damage to or failure of the engine, or are used in the starting of the engine.

Multiple Engine Operating Profiles (MEOP)

The new chapter to the NTC allows approval of switching engine operational profiles in the following cases:

- The engine is certified to be in-service switchable between emission Tiers;
- The engine is certified to more than one test cycle where the engine operational profile is switchable in-service based on the duty the engine is performing; or
- The engine is certified to the same emission standard, the same rated power, same rated speed and the same test cycle, but is switchable in-service between operational profiles (characteristics influencing NOx emission).

Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters

Guidelines on mitigation measures to reduce risks of use and carriage for use of HFO as fuel by ships in arctic waters

PPR finalised the draft guidelines which intend to assist Arctic coastal States in the implementation of measures at a national level to reduce the risk of the use and carriage for use of Heavy Fuel Oil (HFO) as fuel on ships in Arctic waters. This includes where waivers to the requirements in MARPOL Annex I regulation 43A are considered, noting that the regulation allows ships flying the flag of an Arctic coastal State to continue carrying HFO for use after the 1 July 2024 prohibition while operating in Arctic waters subject to the coastal State's sovereignty or jurisdiction.

The draft Guidelines will be considered for approval at MEPC 82 (October 2024) with application thereafter. Noting the associated regulations will enter into force before this, PPR invited interested parties to apply the guidelines early pending approval by MEPC.

Review of the IBTS Guidelines and amendments to the IOPP Certificate and Oil Record Book

Noting lack of proposals to this session, PPR deferred this item to a future session.

Revision of MARPOL Annex IV and associated guidelines

Noting that 97% of ships tested do not meet sewage effluent discharge standards despite using approved Sewage Treatment Plants (STP), (with poor performance or failure being common causes), regular maintenance of STP, monitoring of STP effluent and strengthening the STP type approval test process should help to improve the situation.

Following the agreement of MEPC 80 to include the requirement for all ships to have a sewage record book and sewage management plan in the scope of works, and the intersessional work undertaken by

Correspondence Group, PPR discussed how work should now be progressed and prioritised going forwards. It was agreed that:

1. The *2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants* (MEPC.227(64)) should be finalised initially, ahead of;
2. Revisions to MARPOL Annex IV and;
3. Development of new draft *Guidelines on the implementation of MARPOL ANNEX IV for sewage treatment plants*.

As such PPR agreed that all three should be adopted as a complete package at MEPC 88/89 in 2028/29. Work will be continued via a Correspondence Group which will report back to PPR 12.

Follow-up work emanating from the Action Plan to address marine plastic litter from ships

Loss and discharge of fishing gear

Fishing gear may be lost or discarded at sea, adding to the growing quantity of plastic waste at sea and on beaches. As part of the IMO's action plan to address marine plastic litter PPR correspondence group has been established to address marine plastic pollution from lost or discarded fishing gear.

Reporting of lost or discharged fishing gear

PPR further considered amendments to MARPOL Annex V whilst minimising duplication and gaps in the existing regulatory framework. It was agreed that the secretariat would provide an initial comparative summary of existing reporting obligations across the international regulatory framework to be further considered by correspondence group.

Discussion on data to be collected, reported, and transmitted, as well as reporting thresholds and a definition of recreational craft was not agreed and will therefore be addressed by correspondence group to inform discussions at PPR 12.

Active measures to reduce fishing gear losses

Measures to actively reduce fishing gear losses were briefly discussed, including potential requirements for a subset of fishing vessels to develop ship-specific plans. However, due to time constraints this topic was deferred to PPR 12 for further discussion.

Marking of fishing gear

There were no proposals for amendments to MARPOL Annex V on the marking of fishing gear or amendments to the associated guidelines (MEPC.295(71) 2017 Guidelines for the implementation of MARPOL Annex V). As such proposals were invited to PPR 12 to further discuss these items.

Plastic Pellets

In response to the MV X-Press Pearl incident in 2021 (which resulted in the spillage of 11,000 tonnes of plastic pellets off the shore of Sri Lanka) the PPR correspondence group has been tasked to consider options for reducing the environmental risk associated with the maritime transport of plastic pellets.

Circular on Recommendations for the carriage of plastic pellets by sea in freight containers

PPR finalised a draft MEPC Circular on *Recommendations for the carriage of plastic pellets by sea in freight containers*, following the review by CCC 9. This circular will act as a short-term measure with the aim of reducing the environmental risks associated with the carriage of plastic pellets in packaged form by sea ahead of mandatory instruments being developed. This will be sent to MEPC 81 as an urgent item with a view to adoption in March 2024.

Development of best practice guidelines to clean up spills of plastic pellets

PPR finalised *best practice guidelines to clean up spills of plastic pellets*, providing practical guidance to Member States and other entities when responding to ship-source spills of plastic pellets. This will be sent to MEPC 81 to be considered by Member States ahead of anticipated approval at MEPC 82.

Development of mandatory measures for the carriage of plastic pellets

PPR further considered mandatory instruments that could be developed to regulate the carriage of plastic pellets, including amendments to MARPOL Annex III and assignment of individual UN numbers (class 9) for plastic pellets.

Noting that there was no clear consensus on the way forward, additional proposals were invited for submission to PPR 12. In addition, MEPC will be requested to review the proposal to request an assignment of an individual UN number, noting that it is outside the scope of the IMO to assign such a number.

Biennial agenda and provisional agenda for PPR 12

Agenda for PPR 12

PPR will seek MEPC's agreement that an output on 'Amendments to the 2017 Guidelines addressing additional aspects of the NOx Technical Code 2008 with regard to particular requirements related to marine diesel engines fitted with Selective Catalytic Reduction (SCR) systems (resolution MEPC.291(71)), as amended by resolution MEPC.313(74)' be considered at PPR 12.

Completion of work

PPR noted that the following work is now complete:

- Development of amendments to MARPOL Annex VI and the NOx Technical Code on the use of multiple engine operational profiles for a marine diesel engine including clarifying engine test cycles;
- Development of measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters; and

- Development of a guide compiling best practices to develop local level marine spill contingency plans to aid States, particularly local governments and key institutions, in implementing the International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) and OPRC-HNS Protocol.

Any Other Business

Amendments to the NOx Technical Code regarding re-certification procedures of existing engines

PPR agreed to and finalised draft amendments to the NTC on certification of engines subject to substantial modifications, with a view to adoption at MEPC 83, which is likely in the first half of 2025 and subsequent entry into force 16 months later (anticipated second half of 2026).

The draft amendments concern the procedure to take for re-certification of an engine which undergoes substantial modification and would apply to any such modification after the amendments enter force.

Reduction of Volatile Organic Compound (VOC) emissions from ships

PPR agreed to a proposal to request the Ship Safety and Equipment (SSE) sub-committee to consider a requirement for new crude oil tankers to be fitted with P/V valves with a minimum opening pressure of 0.20 bar and identify any negative implications of such a requirement, highlighting that keeping a high pressure in cargo tanks would not only be a cost-effective way to reduce VOCs but also increase safety on board tankers by reducing crew exposure to toxic gases such as benzene and hydrogen sulphide.

In doing so, it was noted that the vast majority of tankers were equipped with Vapour Emission Control Systems (VECSs) which are effective in reducing VOC emissions when terminal facilities are equipped accordingly, and further that 20% to 30% of VOCs were emitted during cargo loading and unloading operations.

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