



**INTERTANKO**

## **HELMEPA Seminar**

*September 20, 2016*

# **Latest Issues Affecting Shipping**

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**INTERTANKO**

**BALLAST WATER MANAGEMENT**

**GREENHOUSE GAS**

**FUEL OIL QUALITY**

**FUEL OIL AVAILABILITY**

**CYBER RISK MANAGEMENT**

**E-NAVIGATION**

**IMO WORK PROGRAM**



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# **Ballast Water Management**

## **International – IMO**

### **United States**

- Coast Guard**
- EPA**
- California**



## IMO Ballast Water Management Convention

- Adopted in 2004
- Entry into force requires ratification by 30 countries, 35% world's grt
- Finland ratifies on September 8, 2016 bringing totals to 52 countries, 35.1441% grt
- Convention will enter into force on

**September 8, 2017**



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# Ballast Water Management – IMO

## Parties

Liberia

Marshall Islands

Brazil

Canada

France

Germany

Japan

Russian Federation

## Non-Parties

Panama

Bahamas

Greece

China

Cyprus

Malta

United Kingdom

USA



## **Main Concerns with IMO BWM Convention**

- 1. Guidelines for approval of ballast water management systems (G8) – not robust enough to provide reliable equipment**
- 2. Availability of Ballast Water Management Systems (BWMS) to meet convention implementation schedule – unrealistic**
- 3. Procedures for port State control – more onerous than type approval**



## **Port State Control – MEPC 65 (May 2013)**

- Trial Period (initially for 3 years) following entry into force
- To trial sampling and testing procedures
- During this period, port states will *‘refrain from detaining a ship or initiating criminal sanctions in the event a BWMS does not meet the discharge standard’*  
(USA reserves its position)

**MEPC 67 (Oct 2014) adopts Guidelines for PSC with four stage approach**



## IMO Guidelines for PSC

Stage 1 – Initial inspection. Focus on documentation and crew training to operate BWMS

If there are “**clear grounds**”

Stage 2 – More detailed inspection. Check to ensure that BWMS operates properly

Stage 3 – Indicative sampling. Without unduly delaying ship, an indicative analysis of ballast water can be taken

Stage 4 – Detailed analysis. If indicative sampling exceeds D2 standard by a certain threshold, a detailed analysis of ballast water can be taken





## Implementation schedule (availability of BWMS)

**IMO Assembly Resolution (A.1088(28))** adopted, Dec 4, 2013 recommends governments:

- implement the Convention **based on the entry into force date** of the Convention
- considers **ALL** vessels constructed (keel laid) before entry into force as existing vessels
- existing vessels to install a BWMS at the **first renewal survey** (IOPP Certificate under Annex I of MARPOL) after entry into force of the Convention

(Text being developed to implement the Resolution provisions into the BWM Convention upon its Entry into Force)



# **Ballast Water Management – IMO**

**MEPC 70 (October) will consider two proposals related to the implementation schedule in IMO Assembly Resolution (A.1088(28))**

- 1. Liberia** – extend the date to install a BWMS to the **second renewal survey** (IOPP Certificate under Annex I of MARPOL) after entry into force of the Convention, subject to further review. Until then, conduct ballast water exchange with 99% efficiency.
- 2. Shipping industry** – allow date to be adjusted until revised G8 technology is available.



## BWMS Type Approvals

- 65 BWMS have IMO Type Approval under G8 guidelines
- Comprehensive review of G8 guidelines underway. Expect completion in October at MEPC 70
- Shipping industry list of 6 minimum issues to be addressed in G8 revision has been expanded to 34
- **“Roadmap” for non-penalization of early-movers** – owners who’ve installed BWMS approved to current G8 guidelines **should not be penalized**. Expected to be completed in October at MEPC 70



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# Ballast Water Management – IMO

## Roadmap for – “non-penalization of early movers”

- Installed BWMS approved to the current type approval guidelines **should not be required to be replaced** once the new guidelines are introduced
- If current BWMS are installed, maintained and operated correctly then they **should not be required to be replaced for the life of the ship or the BWMS**, whichever comes first, due to occasional lack of efficacy
- Early movers should not be penalized (sanctioned, warned, detained or excluded) solely due to “**occasional exceedance of BWMS (D-2) standard**”
- Footnote: **non-penalization may be subject to review** as additional information becomes available



## Roadmap for – “non-penalization of early movers”

### Outstanding Issue

Shipowners who have installed, prior to the application of the revised Guidelines (G8), ballast water management systems (BWMS) approved in accordance with the Guidelines (G8)...

### When does the application of the revised G8 start?

1. When they are adopted?
2. A specified period after they are adopted?
3. When there are BWMS approved to the revised G8?



# Ballast Water Management – IMO

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**INTERTANKO co-sponsors paper to MEPC 70 with industry associations and India proposing:**

- Vessels be allowed to adjust their BWMS installation dates under the BWM Convention until revised G8 approved technology is available, by either:

- *First renewal survey after the IMO determines that adequate numbers of revised G8 approved BWMS are commercially available; or*
- *Allowing vessels whose compliance dates occur within two [or x] years after entry into force of the Convention to adjust their installation date to the second renewal survey after entry into force.*

- Until that installation date, vessels would perform BW exchange in accordance with Regulation D-1



## Final Regulations issued March 23, 2012

- BWM discharge standard (same as IMO), **review in 4 yrs**
- Schedule for installation of BWMS similar to IMO, **BUT NO** intent to align schedule with Resolution A.1088
- BWMS **not required** if no discharge of ballast water into US waters (12 miles)
- Acceptance of “Alternative” (AMS) BWMS for 5 years
- All ships must eventually install **CG approved BWMS**
- Ships may request an **extension to compliance date** for installation of a USCG approved BWMS



## US Coast Guard – Extension requests

- January 1, 2016 extension date given to ships whose drydockings was scheduled for 2014
- January 1, 2017 extension date given to ships whose drydockings was scheduled for 2015
- January 1, 2018 extension date being given to ships whose drydockings are scheduled in 2016
- Extensions now being given to ships whose drydockings are scheduled in 2017 and 2018, some until **2023**
- **More than 9600 extensions have been granted**





## US Coast Guard – Extension requests

MSIB No. 13-15, issued October 20, 2015

- Extensions will be **granted to the vessel's next scheduled drydocking** after the vessel's required implementation date
- Vessel's first scheduled drydocking date will be determined based upon when the vessel enters the drydock
- Existing extension letters with a January 1 dated will not be re-issued. Change will be made when a vessel applies for a supplemental extension
- **Supplemental extensions** will be required to be submitted



## US Coast Guard – Extension requests

MSIB No. 10-16, issued July 13, 2016

- An installed AMS can be used for five years from the “extended compliance date” if the AMS is installed prior to the expiration of the vessel’s extended compliance date
- Guidance in the event a vessel owner enters into a contract with a company to install an AMS before a vessel’s compliance date and, after the contract but prior to AMS installation, a Coast Guard type-approved BWMS becomes available for that vessel. In this instance, the USCG advises that the owner may proceed with the installation of the AMS. The installed AMS may then be employed for up to five years beyond the vessel’s compliance date.



## US Coast Guard – APPROVED BWM Systems

- **38 BWMS manufacturers** have submitted “Letter of Intent” (LOI) to pursue USCG approval (**58 AMS accepted by USCG**)
- USCG “aware of” at least 19 systems undergoing testing
- Only after the testing is completed by USCG accepted Independent Laboratory (IL) and the results have been evaluated, will a BWMS manufacturer then submit an application to the USCG for approval of their BWMS
- USCG has advised that 3 manufacturers have completed testing and will be submitting application for approval “in the next few weeks”



## US Coast Guard – APPROVED BWM Systems

- USCG has received **four applications** for BWMS type approval – Trojan Marinex, Alfa Laval – PureBallast, DESMI – RayClean and Hyde Marine Guardian (all four make use of **UV treatment**)
- They requested approval of a method for assessing the number of viable organisms, to be used as an **alternative** to the required method that assesses numbers of living organism, as required in USCG BWMS regulations
- Test approach called the “Most Probable Number” (MPN) method, an alternative method that evaluates the likelihood of reproduction among organisms



## US Coast Guard – APPROVED BWM Systems

- USCG **denied** the request on December 14
- Manufacturers appeal decision
- USCG **denied** appeal on July 12 – final agency action
- In denying the appeal, CG states:
  - decision is not a denial of these 4 UV systems, it is a denial of the proposed test method
  - these 4 UV systems still acceptable as AMS
  - MPN method being evaluated by EPA technical panel
  - if panel finds MPN method acceptable, test method will need to be incorporated in CG BWM regulations



## US Coast Guard – APPROVED BWM Systems

- CG indicates that they expect to have a USCG approved BWMS “**sometime in the second half of 2016**”
- After BWMS are USCG approved, extension program will be modified as necessary using a “practical approach”
- CG will not wait to issue a type approval certificate if an application demonstrates that all criteria for type approval have been met
- **Best guess** – Each ship will be evaluated on a case by case basis, based upon suitability of available USCG approved BWMS for that particular ship and **hopefully** combined with ship’s next scheduled drydocking



**USCG** has completed “**practicability review**” to determine whether technology to comply with a performance standard more stringent than that required by the Coast Guard’s current regulations on ballast water discharges can be practicably implemented

**“Practicability review” concludes:**

- that, at this time, technology to achieve a significant improvement in ballast water treatment efficacy onboard vessels cannot be practicably implemented
- there are no data demonstrating that ballast water management systems can meet a discharge standard more stringent than the existing performance standards.



## EPA Vessel General Permit issued December 19, 2013

- To a large extent EPA VGP requirements are the same as USCG (discharge standard, compliance schedule, etc.)
- Approval of BWMS is not required
- BWMS monitoring required (functionality, equipment calibration, effluent, biocides)
- New ship (keel laid after December 1, 2013) is required to install a BWMS to comply with the VGP, i.e. **no acceptance of USCG extension** provision in the VGP
- EPA /USCG MoU – EPA Enforcement Policy, 27 Dec 2013
- Vessel with USCG extension is non-compliant (if discharges in US waters – 3 miles), but EPA regards as a low-enforcement priority, provided all other regs are met





## Potential issue with EPA Enforcement Policy??

- Charter party agreements require tanker to be in compliance with all applicable laws and regulations
- Tanker that receives CG extension would be in compliance with CG requirements
- Tanker that has CG extension and discharges ballast water within US waters (3 miles) would be in violation of EPA Vessel General Permit
- **Would this violate charter party agreements???**
- Thus far, not aware of any comments from oil majors or charterers on this issue



# Ballast Water Management – *USEPA*

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## **US COURT OF APPEALS RULING ON EPA VGP BALLAST WATER REQUIREMENTS (Oct 5)**

- EPA acted arbitrarily and capriciously in, among other things, selecting the IMO ballast water standard as the standard in the VGP
- Decision based in part on the EPA's Science Advisory Board (SAB) report "which identified a number of technologies that can achieve standards higher than IMO for one or more organism sizes"
- Court has remanded the matter back to EPA for review
- Court also ruled that the 2013 VGP shall remain in place until EPA issues a new VGP



# California BWM

- In 2006 California legislation mandates BWM standard (in some cases 100 times greater the USCG standard) to be met in 2010/2012
- In 2013 CA State Lands Commission (CSLC) acknowledges that the standard is NOT technically achievable. CA passed legislation (SB 814) to delay implementation dates until 2016/2018
- In February 2015, CSLC recognizes that implementation must be further delayed and initiates legislation (AB 1312) **to delay implementation dates until Jan 1, 2020 and first scheduled drydocking after Jan 1, 2020**
- CA legislature approved bill and **Governor has signed**
- **Took effect January 1, 2016**



- Mandatory **Energy Efficiency Design Index (EEDI)** for new buildings (1 January 2013)
- Mandatory **Ship Energy Efficiency Management Plan (SEEMP)** for all ships (does not set a target for GHG emissions reduction of ship in operations)
- IMO has considered **Market Based Measures (MBMs)** for shipping, but thus far, no agreement
- IMO is now moving to a **Three Step, Phase In** approach for possible additional technical and operational measures for ships in operation



## IMO Three Step, Phase In approach

- **Phase I** – data collection (monitoring, reporting and verification) – to be considered for adoption in October 2016
- **Phase II** – data assessment and possible setting target for further CO<sub>2</sub> emission reductions from international shipping
- **Phase III** – regulatory reduction mechanism and its enforcement



## **Phase I – Data Collection**

- **Ships of 5000 grt and above**
- **Data to be collected**
  - IMO Number
  - ship type
  - maximum DWT (NOTE: no data on actual cargo)
  - total annual fuel consumption, by fuel type
  - distance traveled from berth to berth
- **Data to be verified by Administration/RO**



## Process for Data Collection

- At the end of each calendar year, the ship shall aggregate the data collected in that calendar year
- Within 3 months after the end of each calendar year, ship shall report the data collected to its Administration
- Data shall be transmitted via electronic communication and using a standardized format developed by the IMO
- Data shall be verified by the Administration, taking into account guidelines developed by the Organization
- Upon receipt of the data, once verified, Administration shall issue a Statement of Compliance to the ship
- Administrations shall reported the data for its registered ships to the IMO Ship Fuel Consumption Database



## Procedure for Data Collection

- Amendments to Chapter 4 of Annex VI of MARPOL 73/78
- Expected to be adopted at MEPC 70 (October 24-28)
- Minimum acceptance period 10 months, followed by minimum 6 months – Possible entry into force in early 2018
- IMO shall maintain an **anonymized database** such that identification of a specific ship will not be possible





## Parallel effort to address the outcome of the UNFCCC Paris Agreement at MEPC 69

- Submission by Belgium, France, Germany, Marshall Islands, Morocco and Solomon Islands suggesting roadmap & timeline for assessing and implementing “the fair share” of reduction of GHG emissions from shipping
- Submission by ICS to assess and define the “Intended IMO Determined Contribution” on CO<sub>2</sub> reduction
- Submission by INTERTANKO, World Shipping Council, CLIA and IPTA supporting an open, structured discussion of the issues that should include a number of basic principles



## Basic Principles that need to be considered

- Policy to be based on actual fuel consumption data for the global fleet;
- International shipping's contribution needs to be considered in the context of the objectives to be achieved more broadly in the global economy, including the efficient transportation of goods for the global economy, proportionality to the carbon reduction objectives of others, including other transport modes;
- Objectives and associated time periods should encourage investments in realistic technical innovation designed to achieve significant improvement in the carbon footprint of the fleet;
- The process should consider how the objective should be defined (e.g. total metric tonnes of CO<sub>2</sub> produced, carbon neutral growth, emissions relative to trade volume or other alternatives); and
- Objectives should be evaluated in the context of actions that are realistically available and appropriate for meeting the objectives within the time frame provided.



# GREENHOUSE GAS – IMO

- **MEPC 69** agreed to establish a working group at MEPC 70, with a view to an in-depth discussion on how to progress the matter, taking into account all documents submitted to this session and comments made, and any further related proposals
- **INTERTANKO, BIMCO, Intercargo, ICS and WSC** have submitted a document proposing that IMO develop a roadmap **to determine a possible** IMO contribution, including a timeline, and offering additional principles to assist in this work



# GREENHOUSE GAS – EU

- **Applicability:** All ships > 5,000 GRT calling to EU ports
- **Reporting CO<sub>2</sub> emissions when ships travel:**
  - between EU ports,
  - an incoming voyage from a non-EU to an EU port
  - an outgoing voyage from an EU port to a non-EU port
- **Data to be reported:** fuel consumption, distance, time at sea/in port and **actual cargo**
- **Measure:** to monitor the ship's average energy efficiency at least with the following criteria:
  - Total annual CO<sub>2</sub> emissions/total annual distance travelled
  - Total annual CO<sub>2</sub> emissions/total annual transport work



## Implementation Dates:

- **1 July 2015** – enter into force
- **By 31 August 2017** – companies should submit to “verifiers” a Monitoring Plan (or within 2 months of first port call)
- **1 January 2018** – starts first annual reporting period
- **2019 and after**
  - by 30 April each year, companies shall submit a verified emissions report to the EC and to the Flag State
  - by 30 June each year, the European Commission will make the emissions reported by ships publicly available



EC established two groups with the following objectives

## •**VERIFICATION & ACCREDITATION**

- Further define procedures regarding the assessment of MPs
- Further define procedures for the verification of emissions reports
- Define procedures related to accreditation

## •**MONITORING & REPORTING**

- Additional technical rules defining the calculation of cargo
- Possible amendments to the monitoring methods & efficiency assessment
- Feedback/recommendations on templates for MPs and emissions reports;
- Best practices on monitoring and reporting compendium



# FUEL OIL QUALITY

- Fuel oil quality for ships is regulated under Regulations 14 and 18 of MARPOL Annex VI
- However, the **requirements are placed upon the ship** to ensure that the fuel used on board the ship complies with these standards
- If the ship is found to be using fuel oil that is not in compliance with these standards, it is the ship and the ship operator that suffers the consequences of port state control action and penalties under national laws
- There are **no requirements on the fuel supplier** to ensure they provide the ship with fuel that meets the Annex VI requirements



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# FUEL OIL QUALITY

**INTERTANKO has raised this concern at IMO over the past 5 years**

**Finally, MEPC 67 (October 2014) agreed to:**

- develop guidelines for member states to use to ensure fuel quality compliance with MARPOL Annex VI; and
- consider the adequacy of the current legal framework for assuring fuel quality

**Correspondence Group to MEPC 68** proposes “guidance” that could consist of a range or menu of options, from policies and quality control measures for fuel providers

**INTERTANKO** leads in **expressing “disappointment”** with progress of CG and **recommends** development of “best practice” guidance





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# FUEL OIL QUALITY

**MEPC 68 concurs with INTERTANKO recommendation**

**CG initiates “Best Practice” guide for**

- Fuel oil providers
- Fuel oil purchasers/users
- Member states/coastal states

**MEPC 69 (April 2016)**

- agrees with development of “Best Practice” guides
- majority of delegations were of the view that the contract of the supply and delivery of fuel oil to a ship was a commercial matter, and the existing requirements in MARPOL Annex VI were adequate

**CG to submit draft “Best Practice” guides to MEPC 71  
(May 2017)**



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# FUEL OIL

## AVAILABILITY

- MARPOL Annex VI requires sulphur content of fuel oil used on board ships to not exceed **0.50% on January 1, 2020**
- Also requires a review **to be completed by 2018** to determine the availability of fuel oil to comply with this standard take into account the following elements:
  1. the global market supply and demand for fuel oil to comply with this standard that exist at the time the review is conducted;
  2. an analysis of the trends in fuel oil markets; and
  3. any other relevant issue
- A “Group of Experts” shall be formed to conduct the review
- Based upon results of the review, Parties to Annex VI decide if ships can comply. **If decision is that it is not possible, 0.50% becomes effective on January 1, 2025**



# FUEL OIL AVAILABILITY

- IMO contracted study to have an assessment done on the availability of ships' fuel containing 0.5% sulphur content
- The conclusion of this study is that the refinery sector **can produce sufficient amounts** of maritime fuels with a sulphur content of 0.5% or less **to meet demand by 2020**
- However, another independent study that was initiated by BIMCO and the International Petroleum Industry Environmental Conservation Association (IPIECA) concludes that a switch to 0.5% **on January 2020 “does not look workable.”**
- Conflicting studies on the issue indicates **any decision** made by IMO **will most likely be a political one**
- Decision will require 50% majority of Annex VI parties (87)



# **CYBER RISK MANAGEMENT**

## **Industry Guidelines on Cyber Security (Jan 2016)**

1. Understanding the cyber risk
2. Assessing the risk
  - 2.1 Determination of vulnerability
  - 2.2 Risk assessment made by the company
  - 2.3 Third party risk assessment
3. Reducing the risk
  - 3.1 Technical cyber security controls
  - 3.2 Procedural controls
  - 3.3 Defence in depth
4. Developing contingency plans
  - 4.1 Response plan
  - 4.2 Recovery
  - 4.3 Investigate cyber incidents



## **MSC 95 (November 2015)**

- Cybersecurity is an important and timely issue and work on this matter should progress at MSC 96

## **MSC 96 (May 2016)**

- Industry submits its guidelines for consideration
- Multiple submissions by Member states on proposed guidelines, China, European Union countries, France and USA (with others)
- Working group formed to advance issue
- Committee approves MSC.1/Circ.1526, *Interim Guidelines on Maritime Cyber Risk Management*



# CYBER RISK MANAGEMENT

***Interim Guidelines* provide high level recommendations, focusing on the following:**

**Identify:** Define personnel roles and responsibilities for cyber risk management and identify the systems, assets, data and capabilities that, when disrupted, pose risks to ship operations.

**Protect:** Implement risk control processes and measures, and contingency planning to protect against a cyber event and ensure continuity of shipping operations.

**Detect:** Develop and implement activities necessary to detect a cyber event in a timely manner.

**Respond:** Develop and implement activities and plans to provide resilience and to restore systems necessary for shipping operations or services impaired due to a cyber event.

**Recover:** Identify measures to back-up and restore cyber systems necessary for shipping operations impacted by a cyber event.



**Industry Guidelines** are referenced in IMO *Interim Guidelines* as an example of detailed guidance to achieve high level recommendations (other examples are also provided)

**Considerable discussion** on whether *Interim Guidelines* should be issued, majority favors doing so

**Member States and interested international organizations** are invited to bring any issues that might be identified with the use of the *Interim Guidelines* to the attention of MSC 97 (November 2016)



# **E-NAVIGATION**

**E-navigation** is intended to be the harmonized collection, integration, exchange, presentation and analysis of marine information on board ship and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.

**E-navigation** involves the integration of new and existing bridge technologies and equipment to enable the provision of globally harmonized maritime services.





## **INTERTANKO Focus –**

Providing the ship all the information the crew needs to navigate safely,

NOT having shore personnel directing the navigation of the ship

**IMO has agreed to proceed with six issues** related to e-Navigation and has assigned the work to the Navigation, Communication and Search and Rescue (NCSR) Subcommittee



# E-NAVIGATION

1. Guidelines on standardized modes of operation (S-mode) for all navigation equipment
2. Development of new modules to the revised Performance Standards for Integrated Navigation Systems (INS) related to the harmonization of bridge design and display of information
3. Revision of the Guidelines and criteria for ship reporting systems relating to standardized and harmonized electronic ship reporting and automated collection of on board data for reporting



# E-NAVIGATION

4. Revision of the general requirements for shipboard radio equipment forming part of the GMDSS and for electronic navigation aids
5. Guidelines for the harmonized display of navigation information received via communications equipment
6. Guidance on the definition and harmonization of the format and structure of Maritime Service Portfolios (MSP) and guidance on appropriate communication channels for the electronic exchange of information between shore and ship



# IMO WORK PROGRAM

- IMO guidelines for establishing new work program items require demonstration of compelling need and impacts to the industry
- Industry associations initiated proposal to the IMO Council for a new more “**robust**” approach for approving new work program items that includes **substantive evidence of a compelling need and economic benefits**
- IMO Council agreed to consider the issue in detail at its meeting in July 2016, which then decided, that in light of comments made at that meeting, to defer the matter to its next meeting in November!!



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# **2017 ANNUAL TANKER EVENT**

**Venue** – Houstonian Hotel, Houston, Texas

**Dates** – May 22 – 26, 2017

**Events:** Executive Committee Meeting  
Council Dinner and Meeting  
Annual General Meeting  
Gala Dinner  
Tanker Summit  
Workshop



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**THANK YOU!**