

For discussion on  
16 December 2014

**Legislative Council Panel on Economic Development**  
**Incorporating in Local Legislation the Latest Standards**  
**of the International Maritime Organization**

**PURPOSE**

This paper informs Members of our proposals to amend three regulations and to make a new regulation under the Merchant Shipping (Prevention and Control of Pollution) Ordinance (Cap.413) (“the Ordinance”). The three amendment regulations seek to incorporate the latest requirements of Annex I, Annex IV and Annex V to the International Convention for the Prevention of Pollution from Ships (“MARPOL”). The new regulation aims to implement the “International Convention on the Control of Harmful Anti-fouling Systems on Ships” (“AFS Convention”).

**BACKGROUND**

**MARPOL**

2. MARPOL was adopted by the International Maritime Organisation (“IMO”) to eliminate or to reduce deliberate or negligent pollution to the environment resulting from ship operation.
3. **Annex I to MARPOL** covers prevention of pollution by oil from operational measures as well as from accidental discharges. MARPOL Annex I is implemented in Hong Kong through the Merchant Shipping (Prevention of Oil Pollution) Regulations (Cap.413A) (“the Oil Regulation”).
4. **Annex IV to MARPOL** contains requirements to control pollution of the sea by sewage. MARPOL Annex IV is implemented in Hong Kong through the Merchant Shipping (Prevention of Pollution by Sewage) Regulation (Cap.413K) (“the Sewage Regulation”).



5. **Annex V to MARPOL** deals with different types of garbage. It completely bans the disposal of all forms of plastics into the sea and specifies the distances from land and the manner in which other types of garbage may be disposed of. MARPOL Annex V is implemented in Hong Kong through the Merchant Shipping (Prevention of Pollution by Garbage) Regulation (Cap.413J) (“the Garbage Regulation”).

6. The IMO makes revisions to the MARPOL Annexes from time to time. All ocean-going vessels (“OGVs”) have to comply with the MARPOL requirements as and when they come into effect, or else they may be denied from entering international ports. So far, Hong Kong registered ships engaged in international voyage have no problems with compliance. As an associate member of the IMO and to maintain our status as an international maritime centre, we need to keep our local legislation aligned with the latest standards in MARPOL.

### **AFS Convention**

7. The AFS Convention was adopted by the IMO to prohibit the use of organotin compounds in anti-fouling paints<sup>1</sup> used on ships, since studies have shown that these compounds are harmful to the marine environment. The AFS Convention entered into force internationally on 17 September 2008. China ratified the Convention in March 2011. Subject to enactment of a new regulation under the Ordinance to implement the AFS Convention in Hong Kong, we will request the Central People’s Government to notify the IMO the extension of the AFS Convention to Hong Kong.

## **LEGISLATIVE PROPOSALS**

### **(I) MARPOL Annex I – To amend the Oil Regulation**

8. The Oil Regulation implements MARPOL Annex I by imposing controls on the design, construction, operation and equipment of ships (including all ships within Hong Kong waters and Hong Kong ships wherever they are) with a view to preventing or minimizing the discharge of oily mixture / oil from ships during normal operation and in accidents. For

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<sup>1</sup> Anti-fouling paints are used on the bottom of a ship to prevent unwanted marine organisms such as barnacles, bacteria, mussels and algae from attaching, which would otherwise slow down the ship and increase its fuel consumption.



example, the Oil Regulation requires all oil tankers of 150 gross tonnage ("GT") and above as well as any other ships of 400 GT and above to be subject to survey and to carry on board an International Oil Pollution Prevention Certificate or a Hong Kong Oil Pollution Prevention Certificate as a proof that their stability, structure, equipment, systems, fittings, etc. are in accordance with the MARPOL requirements.

9. In the light of the revisions made to MARPOL Annex I, we propose to make the following major changes to the Oil Regulation in order to incorporate the latest international requirements in local legislation –

- (a) to protect damage of pump-room in case of stranding, oil tankers of 5,000 tonnes deadweight and above constructed on or after 1 January 2007 shall have a double bottom for its pump-room;
- (b) for all ships with an aggregate oil fuel capacity of 600m<sup>3</sup> and above which are delivered on or after 1 August 2010, their oil fuel tanks are required to be located at a certain distance away from the ship's shell for the purpose of providing a buffer to protect the oil fuel tanks in the event of collision or stranding;
- (c) oil tankers of 5,000 tonnes deadweight and above and delivered on or after 1 January 2010 are required to meet an oil outflow parameter in the event of collision or stranding. The objective is to provide a performance based accidental oil outflow requirement so as to minimize oil leakage in the event of side or bottom damage;
- (d) in order to provide enhanced protection against leakage in the case of accident, all oil tankers of 600 tonnes deadweight and above (regardless of the date of delivery) for the carriage of heavy grade oil should be constructed with double hull; and
- (e) oil tankers of 5,000 tonnes deadweight and above delivered on or after 1 February 2002 should meet the intact stability requirement, which is a calculation required by MARPOL Annex I to ascertain that a ship can maintain its upright position during a voyage.



## **(II) MARPOL Annex IV – To amend the Sewage Regulation**

10. The Sewage Regulation implements MARPOL Annex IV by requiring ships engaged in international voyage which are 400 GT and above, or less than 400 GT but are certified to carry more than 15 persons, to fulfil relevant conditions for discharge of sewage into the sea. Under the Sewage Regulation, all the above OGVs are subject to survey and are required to carry on board an International Sewage Pollution Prevention Certificate as a proof that their structure, equipment, systems, fittings, etc. are in accordance with the MARPOL requirements. Discharge of sewage into the sea is not allowed unless the OGV is equipped with an approved sewage treatment plant. Otherwise, the OGV may only discharge comminuted and disinfected sewage using an approved system at a distance of more than 3 nautical miles from the nearest land<sup>2</sup>. For sewage that is not comminuted or disinfected, it can only be discharged at a distance of more than 12 nautical miles from the nearest land.

11. In the light of the revisions made to MARPOL Annex IV, we propose to make the following major changes to the Sewage Regulation in order to incorporate the latest international requirements in local legislation –

- (a) the effluent standards required of sewage treatment plant installed on ships shall be upgraded in accordance with the resolutions passed by the IMO. The effluent standards are expressed in terms of the permitted levels of faecal coliform, total suspended solids, biochemical oxygen demand, pH, total nitrogen and total phosphorus;
- (b) Hong Kong passenger ships must not enter a Special Area<sup>3</sup> unless the ship is equipped with an approved sewage treatment plant or an approved holding tank for the retention of sewage. Besides, Hong Kong passenger ships must not discharge sewage within a Special Area unless it has in operation an approved sewage treatment plant and the effluent must not produce visible floating solids nor cause discoloration of the surrounding water. The above requirements

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<sup>2</sup> "Nearest land" is the baseline from which the territorial sea of the territory in question is established in accordance with the international law. On this basis, for China, its nearest land is beyond Hong Kong waters.

<sup>3</sup> Only the Baltic Sea has been designated as a Special Area under MARPOL Annex IV for enhanced protection.



shall take effect on 1 January 2016 for new passenger ships and on 1 January 2018 for existing passenger ships provided that sufficient reception facilities are established in the Special Area; and

- (c) when an OGV with no approved sewage treatment plant discharges sewage from holding tanks into the sea at specified distances from the nearest land (depending on whether the sewage has been comminuted and disinfected), the discharge can only be made at a rate as derived from a formula adopted by the IMO.

### (III) MARPOL Annex V – To amend the Garbage Regulation

12. The Garbage Regulation implements MARPOL Annex V by imposing controls on the disposal of garbage from ships (including all ships within Hong Kong waters and Hong Kong ships wherever they are). “Garbage” is currently defined under the Garbage Regulation to mean all kinds of victual, domestic or operational wastes excluding fresh fish and parts thereof, generated during the normal operation of the ship and liable to be disposed of continuously or periodically, except sewage originating from ships. The Garbage Regulation imposes more stringent disposal requirements within Special Areas, which are areas of recognized importance for oceanographic and ecological reasons and are designated for enhanced protection by the IMO<sup>4</sup>. Disposal of garbage from a ship into the sea within a Special Area is prohibited except for food wastes which are to be disposed of at not less than 12 nautical miles from the nearest land. For waters outside the Special Areas, disposal of plastics is prohibited. Disposal of other garbage is permitted subject to distance requirements from the nearest land.

13. In the light of the revisions made to MARPOL Annex V, we propose to make the following major changes to the Garbage Regulation in order to incorporate the latest international requirements in local legislation –

- (a) the definition of “Garbage” will be revised to mean “*all kinds of food wastes, domestic wastes and operational wastes, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear and animal carcasses generated during the normal operation of the ship.*”

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<sup>4</sup> Special Areas approved by IMO for designation under MARPOL Annex V include the Mediterranean Sea, Baltic Sea, Black Sea, Red Sea, “Gulfs” Area, North Sea, the Antarctic Area, and the Wider Caribbean Region including the Gulf of Mexico and the Caribbean Sea.



*Garbage does not include fresh fish and parts thereof generated as a result of fishing activities undertaken during the voyage, or as a result of aquaculture activities which involve the transport of fish including shellfish for placement in the aquaculture facility and the transport of harvested fish including shellfish from such facilities to shore for processing".* With the revised definition, the scope of "Garbage" will be expanded to include control of the following categories / substances which are currently not regulated, namely –

- cooking oil;
  - fishing gear made of materials other than plastics;
  - animal carcasses; and
  - cleaning agents and additives contained in cargo hold and external wash water (as part of operational wastes);
- (b) disposal requirements will be tightened by prohibiting the discharge of the following categories of garbage in all waters –
- cleaning agents and additives classified as Harmful to the Marine Environment ("HME") substances and contained in cargo hold wash water or in deck and external surfaces wash water;
  - cooking oil; and
  - fishing gear made of materials other than plastics.

In addition, the disposal of domestic wastes, operational wastes, cargo residues classified as HME substances, and incinerator ashes not containing ashes from plastics products shall also be prohibited in waters outside Special Areas;

- (c) every ship of 12 meters or more in length overall shall display **placards** to notify the crew and passengers of the applicable disposal requirements;



- (d) every ship of 100 GT or above, and every ship certified to carry 15 or more persons shall carry a **garbage management plan**. The plan shall provide procedures for minimizing, collecting, storing, processing and disposing of garbage; and
- (e) every ship of 400 GT and above, and every ship certified to carry 15 or more persons engaged in international voyage shall keep a **garbage record book**<sup>5</sup>. Each discharge into the sea or to a reception facility, or a completed incineration, shall be recorded in the garbage record book. Information shall include date and time, position of the ship, category of the garbage and the estimated amount discharged / incinerated.

#### **(IV) AFS Convention – To make a new regulation**

14. We propose to make a new regulation under the Ordinance, namely the Merchant Shipping (Control of Harmful Anti-Fouling Systems on Ships) Regulation (“the AFS Regulation”), to implement the AFS Convention in Hong Kong.

15. Under the AFS Regulation, ships (including all ships within Hong Kong waters and Hong Kong ships wherever they are) must not apply organotin compounds in anti-fouling systems. All ships of 400 GT and above engaged in international voyage shall be required to carry on board an International Anti-Fouling System Certificate issued by the Flag State Administration after satisfactory completion of a survey to demonstrate that the ship is in full compliance with the AFS Convention. As for ships which are less than 400 GT but are 24 meters or more in length engaged in international voyage, they shall be required to carry a Declaration on Anti-fouling System signed by the owner or his authorized agent.

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<sup>5</sup> Except where the ships meet the condition for waiver under MAPROL Annex V.



## IMPLICATIONS TO SHIPPING INDUSTRY

### MARPOL

#### *For OGVs*

16. Pending amendments to local legislation, Marine Department ("MD") has promulgated guidelines through the Hong Kong Merchant Shipping Information Notes to facilitate compliance by OGVs and vessels registered under the Hong Kong Shipping Register with the latest international standards of MARPOL Annexes. It is observed that the requirements are already being generally complied with by OGVs navigating in Hong Kong waters.

#### *For locally licensed vessels*

17. As for the locally licensed vessels, the legislative proposals do not have significant impact on their operation.

18. In respect of the Oil Regulation, most of the proposed new requirements do not affect local vessels due to their smaller sizes. The MARPOL requirement that oil tankers of 600 tonnes deadweight and above should be constructed with double hull for the carriage of heavy grade oil (ref. paragraph 9(d) above), which has taken effect globally in 2008, affects locally licensed tankers which are of 600 tonnes deadweight and above. MD has informed the local marine community through Hong Kong Merchant Shipping Information Note issued in 2005 that –

- (a) all newly licensed tankers intended for the carriage of heavy grade oil within Hong Kong waters on or after 5 April 2005 should be constructed with double hull; and
- (b) existing locally licensed single hull tankers may continue operation for the carriage of heavy grade oil within Hong Kong waters subject to fulfilment of more stringent inspection requirements.

19. As mentioned in paragraph 10 above, the Sewage Regulation only applies to ships engaged in international voyage that are 400 GT or above, or certified to carry more than 15 persons. The Sewage Regulation does not



apply to local vessels. As regards the Garbage Regulation, disposal of garbage is already prohibited within Hong Kong waters under existing law<sup>6</sup>. To facilitate future compliance by relevant local vessels with the requirements for display of placards and possession of garbage management plan, MD will prepare standard placards and garbage management plans for the direct / adapted use by vessels.

### **AFS Convention**

20. The AFS Convention has been in force since 2008. Pending the enactment of local legislation, MD has authorized Recognized Organizations<sup>7</sup> to carry out surveys on Hong Kong registered ships and issue certificates (on an administrative basis) in accordance with the Convention requirements. So far, MD has identified no compliance problems with Hong Kong registered ships or other ships navigating in Hong Kong waters.

21. At the local level, according to the Pesticides Ordinance (Cap.133), the importation, supply or sale of anti-fouling paint containing organotin compounds are not allowed in Hong Kong except under and in accordance with a permit issued by the Agriculture, Fisheries and Conservation Department. Since 2004, no permit was issued for this purpose. As such, incorporating the requirements of AFS Convention in local legislation will not affect the operation of local vessels as these vessels would have complied with the Convention requirements.

### **Enforcement**

22. On enforcement, OGVs visiting Hong Kong are subject to Port State control inspections whilst Hong Kong registered vessels are subject to inspections under a quality scheme administered by MD. Locally licensed vessels are subject to periodic surveys for verification of their compliance with the legislation. Besides, MD's patrol launches would take necessary enforcement actions if they detect any irregularities or breaches during their daily patrols.

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<sup>6</sup> The disposal of marine litter is also prohibited under the Summary Offences Ordinance (Cap.228).

<sup>7</sup> Recognized Organizations are international bodies specialized in the technical areas of ships, such as ship construction, equipment, operation and surveys, etc. At present, MD entrusted Recognized Organizations through contractual agreements to carry out certain services, such as to survey ships and to issue certificates for these ships, etc.



## **CONSULTATION**

23. The Shipping Consultative Committee, Local Vessel Advisory Committee and / or High Speed Craft Consultative Committee, which comprise different stakeholders in the shipping industry, have been consulted on the legislative proposals and they have no objection to them.

## **ADVICE SOUGHT**

24. Members are invited to note and comment on the above proposals. Subject to Members' support, we aim at introducing the relevant amendment regulations / new regulation into LegCo in 2015.

**Transport and Housing Bureau**  
**December 2014**