

For discussion
on 10 December 2019

Legislative Council Panel on Economic Development

Proposed Legislative Amendments to Implement the Latest Requirements under Conventions of the International Maritime Organization

PURPOSE

This Paper consults Members on four legislative proposals to implement requirements under two conventions of the International Maritime Organization (“IMO”) relating to the ban on the carriage of non-compliant fuel on board ships, the fuel efficiency requirement for certain cargo ships navigating in Polar Waters, the use of electronic record books on board ships, and fire safety on board ships.

LEGISLATIVE PROPOSALS

I. Ban on carriage of fuels not compliant with sulphur content limits

Background

2. Annex VI to the International Convention for the Prevention of Pollution from Ships¹ (“MARPOL”) sets out the requirements for preventing air pollution caused by ships. In Hong Kong, the requirements of MARPOL Annex VI are implemented via the Merchant Shipping (Prevention of Air Pollution) Regulation (Cap. 413P) (“the Air Pollution Regulation”).

¹ Annexes to MARPOL govern various substances as follows:

- Annex I: Regulations for the prevention of pollution by oil;
- Annex II: Regulations for the control of pollution by noxious liquid substances in bulk;
- Annex III: Regulations for the prevention of pollution by harmful substances carried by sea in packaged form;
- Annex IV: Regulations for the prevention of pollution by sewage from ships;
- Annex V: Regulations for the prevention of pollution by garbage from ships; and
- Annex VI: Regulations for the prevention of air pollution from ships.

3. To reduce pollution caused by emissions from the burning of fuel oils of ships, the Air Pollution Regulation currently requires, among others, that the sulphur content of fuel oil used on board ships engaged in international voyages must not exceed the applicable limits specified in MARPOL Annex VI (“the sulphur content limits”). The Air Pollution Regulation also requires ships engaged in non-international voyages to comply with the same limit. Except for sulphur oxides Emission Control Areas (“SO_x ECAs”)², the existing sulphur content limit stands at 3.5% mass per mass. The limit will be reduced to 0.5% mass per mass from 1 January 2020 onwards³. Ships navigating in SO_x ECAs are subject to a more stringent sulphur content limit, which stands at 0.1% mass per mass⁴.

Legislative proposal

4. The IMO from time to time collects feedback from its members on the enforcement and compliance with requirements under MARPOL. One such feedback from member states was that enforcement of the sulphur content limits would be challenging, especially on high seas. To address such enforcement difficulties, the IMO adopted a resolution in October 2018 which stipulates that the sulphur content limits will apply not only to fuel oil used on board ships, but also to those carried for use on board ships. This requirement seeks to discourage ocean-going vessels (“OGVs”) from using non-compliant fuel on high seas and facilitate more effective enforcement by port authorities. The new requirement will come

² ECAs are sea areas as defined by MARPOL Annex VI in which stricter controls are established to minimise airborne emissions from ships. Currently, the ECAs designated by the IMO under Annex VI for controlling the emission of sulphur oxides and nitrogen oxides from ships are the Baltic Sea Area, the North Sea Area, the North American Area and the United States Caribbean Sea Area.

³ The Air Pollution Regulation has stipulated that ocean-going vessels should comply with the requirement to use fuel with sulphur content of 0.5% mass per mass starting from 1 January 2020. Meanwhile, as a green initiative pursued by the Environment Bureau, through the enactment of the Air Pollution Control (Fuel for Vessels) Regulation (Cap. 311AB), which came into operation on 1 January 2019, the tightened sulphur content limit of 0.5% mass per mass has already been implemented in Hong Kong, as part of the Government’s efforts to establish a Domestic Emission Control Area (“DECA”) within the Pearl River Delta. All ships are required to use compliant fuels in Hong Kong waters since 1 January 2019.

⁴ While the waters of Hong Kong and the nearby waters of the Pearl River Delta region are not MARPOL-designated SO_x ECAs, the HKSAR Government has signed a cooperation agreement with other governments in the Pearl River Delta region to establish a DECA to implement ECA requirements at our own pace.

into force globally on 1 March 2020. Accordingly, we will need to amend the Air Pollution Regulation to implement the same to all OGVs within the waters of Hong Kong and all Hong Kong-registered OGVs wherever they may be.

II. Application of Energy Efficiency Design Index requirements to ice-strengthened ships

Background

5. To reduce pollution caused by fuel combustion emissions from ships, the IMO established a technical measure known as the Energy Efficiency Design Index (“EEDI”) under MARPOL Annex VI. The EEDI requires a minimum energy efficiency level for different ship type and size. As long as the required energy efficiency level is attained, ship designers and builders are free to use the most cost-efficient solutions for the ship to comply with the requirements. Ships delivered on or after 1 July 2015 are required to attain a minimum EEDI, based on their types and sizes. Cargo ships having ice-breaking capabilities are exempted from this requirement in view of the extra engine power they need to navigate through icy waters, which makes compliance with EEDI requirements infeasible. In Hong Kong, the EEDI requirements have already been incorporated into the Air Pollution Regulation.

Legislative Proposal

6. To offer an objective set of criteria to ascertain which ships are “cargo ships having ice-breaking capability” and are thus exempted from EEDI requirements, the IMO adopted a resolution in 2019 to stipulate that exemption of EEDI requirements would apply to cargo ships operating in the most severe ice conditions in Polar Waters (i.e. Category A ships as defined in the International Code for Ships Operating in Polar Waters (“Polar Code”)⁵). Accordingly, we will need to amend the Air Pollution

⁵ The Polar Code governs ships navigating in polar waters and its requirements relate to the safety of ship operations, the protection of marine environment and seafarers’ training, having regard to the challenging navigational conditions within the waters surrounding the two Poles. Under the Polar Code, ships are classified into one of three categories (Category A, Category B and Category C), depending on factors including where in the polar waters the ship is intended to operate and the seasons in which it will operate there. Category A ships operate in the most severe ice conditions where Category C ships operate in the least severe ice conditions.

Regulation to reflect the same.

III. Use of electronic record books on board ships

Background

7. MARPOL Annexes I, II, V and VI respectively set out the requirements to prevent pollution by oil, noxious liquid substances in bulk, garbage and air pollutants from ships. Under these Annexes, ships⁶ are required to keep on board record books to record various ship operations⁷. In Hong Kong, the requirements have been incorporated into the relevant subsidiary legislation under the Merchant Shipping (Prevention and Control of Pollution) Ordinance (Cap. 413)(“the Ordinance”).

Legislative Proposal

8. With the advent of transacting shipping business via electronic means, the IMO adopted two resolutions in May 2019 to amend the four Annexes to allow the use of electronic record books as an alternative to traditional hard copy record books. The resolutions also allow flag administrations to accept electronic record books, which are deemed to have same status as those in paper form. Such electronic record books are to be approved by the respective flag administrations. The new requirements will come into force globally on 1 October 2020. As such, we propose to amend the relevant provisions of the concerned subsidiary legislation under the Ordinance to make it explicit that the use of electronic

⁶ Various types of ships are required to keep the respective record books on board under MARPOL —

- (a) Annex I — ships of 400 gross tonnage or above and oil tankers of 150 gross tonnage or above are required to keep an Oil Record Book;
- (b) Annex II — all ships are required to keep a Cargo Record Book;
- (c) Annex V — ships of 400 gross tonnage or above, and all ships engaged in international voyages which are certified to carry 15 or more persons, are required to keep a Garbage Record Book; and
- (d) Annex VI — ships of 400 gross tonnage or above are required to keep an Ozone Depleting Substances Record Book. All ships are required to keep records of engine status when entering or exiting MARPOL-designated nitrogen oxides ECAs, and of fuel oil change-overs when entering and exiting MARPOL-designated SO_x ECAs.

⁷ The precise entries to be made in record books vary from Annex to Annex. In general, whenever ships load or unload cargo, discharge pollutants into the sea, or encounter abnormalities, they are required to record the relevant details (such as the date and time of the occurrence, the quantity and type of cargo / pollutants) in the record books.

record books would be allowed.

IV. Fire Safety Requirements for Helicopter Landing Areas on board Ships

Background

9. Chapter II-2 of the Annex to the International Convention for the Safety of Life at Sea (“Chapter II-2”)⁸ stipulates the fire safety requirements for all ships and specific measures for passenger ships, cargo ships and tankers to prevent the occurrence of fires, to control fires and explosions, as well as to reduce the risk to life and of damages to ships, their cargo and the environment. To provide for the technical details and engineering specifications for fire safety systems on board ships, the IMO adopted the International Code for Fire Safety Systems (“FSS Code”) in 2001 and made it mandatory via Chapter II-2. In Hong Kong, the fire safety requirements in both Chapter II-2 and the FSS Code are implemented through Merchant Shipping (Safety) (Fire-fighting Appliances and Fire Protection) Regulation (Cap. 369BE) (“the Fire Safety Regulation”). The requirements therein apply to all Hong Kong-registered OGVs wherever they may be, and all OGVs within the waters of Hong Kong⁹.

⁸ Different chapters in the Annex to SOLAS cover different aspects of maritime safety, as follows:

Chapter I:	General Provisions;
Chapter II-1:	Construction– structure, subdivision and stability, machinery and electrical installations;
Chapter II-2:	Construction– fire protection, fire detection and fire extinction;
Chapter III:	Life-saving appliances and arrangements;
Chapter IV:	Radiocommunications;
Chapter V:	Safety of navigation;
Chapter VI:	Carriage of cargoes and oil fuels;
Chapter VII:	Carriage of dangerous goods;
Chapter VIII:	Nuclear ships;
Chapter IX:	Management for the safe operation of ships;
Chapter X:	Safety measures for high-speed craft;
Chapter XI-1:	Special measures to enhance maritime safety;
Chapter XI-2:	Special measures to enhance maritime security;
Chapter XII:	Additional safety measures for bulk carriers;
Chapter XIII:	Verification of compliance; and
Chapter XIV:	Safety measures for ships operating in polar waters.

⁹ However, the requirements in the Fire Safety Regulation do not apply to —

- (a) ships of war or troopship;
- (b) ships not propelled by mechanical means;

Legislative proposal

10. Both Chapter II-2 and the FSS Code currently prescribe requirements on the provision of fire-fighting appliances for helicopter facilities on board ships. To improve fire safety of ships with helidecks or landing areas designated for occasional or emergency helicopter landings (“helicopter landing areas”), the IMO adopted two resolutions which brought forth amendments to both Chapter II-2 and the FSS Code. The amendments require helicopter landing areas and helidecks to be fitted with foam fire-fighting appliances, and further set out the engineering specifications of such systems. For instance, the amendments provide for the dimensions and materials of hose reels, nozzles and pipes used in foam fire-fighting systems, as well as the minimum quantity and discharge rate of foam from such systems. The amendments will enter into force on 1 January 2020. In this connection, we propose to incorporate the amendments into our local legislation by amending the Fire Safety Regulation.

CONSULTATION

11. On the proposed ban on the carriage of fuel oils not compliant with the IMO’s sulphur content limits, the Hong Kong Fleet Operation Advisory Committee of the Marine Department (“MD”) was consulted in April 2019. Members supported the proposal.

12. On the legislative proposal to implement the requirements relating to the use of electronic record books on board ships and the updated scope of application of EEDI requirements, the Hong Kong Fleet Operation Advisory Committee of MD was consulted in October 2019. Members supported the proposal.

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- (c) wooden ships of primitive build;
 - (d) pleasure vessels not engaged in trade;
 - (e) vessels used for catching fish, whales, seals, walrus or other living resources of the sea;
 - (f) high speed crafts;
 - (g) local vessels;
 - (h) non-Hong Kong ships of non-SOLAS countries, if such ships are within the waters of Hong Kong due to stress of weather, or any other circumstances that could not have been prevented or forestalled by the owner or the master of the ship; and
 - (i) cargo ships of less than 500 gross tonnage.

13. Regarding the legislative proposal to implement the fire safety requirements of helicopter landing areas on board ships, the Hong Kong Fleet Operation Advisory Committee of MD was consulted in November 2019. Members supported the proposal.

ADVICE SOUGHT

14. Members are invited to comment on the proposals. Subject to the drafting progress, we plan to introduce the legislative proposals into the Legislative Council by batches within the 2019-20 legislative year.

**Transport and Housing Bureau
Marine Department
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