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Clerk to Subcommittee
(Attn: Ms. Miranda HON)
Panel on Environmental Affairs
Legislative Council Complex,
1 Legislative Council Road,
Central, Hong Kong

11 March 2013

Dear Ms. HON,

Panel on Environmental Affairs
Subcommittee on Issues Relating to Air, Noise and Light Pollution
Follow-up meeting on 29 January 2013

Thank you for your letter dated 15 February 2013.

2. We should be grateful if you would distribute this letter, together with the Administration's response to issues raised at the above meeting, to Members of the Subcommittee on Issues Relating to Air, Noise and Light Pollution.

3. Thank you.

Yours sincerely,

(PANG Sik-Wing)
for Director of Environmental Protection

encl.
c.c. Director of Marine

CB1/PS/2/12

Legislative Council
Panel on Environmental Affairs
Subcommittee on Issues Relating to Air, Noise and Light Pollution
Responses to the Follow-up Actions
Arising from the Discussion at the meeting on 29 January 2013

1(a) the process involved in designating Pearl River Delta ("PRD") waters as an Emission Control Area ("ECA") under the International Maritime Organization, and the current progress made by the Administration in pursuing the proposal of designating PRD waters as an ECA with the Central People's Government;

To designate an Emission Control Area (ECA) under the International Maritime Organization (IMO), an application has to be made by a Party to the International Convention for the Prevention of Pollution from Ships. Hong Kong is not a Party to the Convention. As such, we have to seek the agreement of the Central People's Government (CPG) if we want to designate the Pearl River Delta (PRD) waters as an ECA.

The application to IMO has to be supported by scientific evidence demonstrating the need to prevent, reduce, and control emissions of nitrogen oxides (NOx) or sulphur oxides (SOx) or particulate matter or all three types of emissions from ships. IMO has listed out eight specific criteria for such a designation as set out at **Annex A**.

Given the enormity and technical complexity of the task, we have set the designation of PRD waters as an ECA to be our long term goal. Our priority is to pursuing mandating ocean-going vessels to switch to cleaner fuel when berthing in Hong Kong ports while discussion is being held in parallel with the relevant Mainland authorities to take the same approach in PRD ports for even higher emission reduction benefits.

1(b) a paper to explain the adoption of a "direct reference approach" in introducing legislative amendments for incorporating the latest International Maritime Organization standards into the relevant local legislation;

Marine Department (MD)'s paper is at **Annex B.**

1(c) a paper to explain the application of the Ringelmann Chart in conducting dark-smoke visual surveys of vessels navigating in Hong Kong waters, and the progress made by the Administration in setting an objective standard for determining dark-smoke emissions from vessels by making reference to the Ringelmann Chart (paragraph 3.39 of Chapter 2 of the Director of Audit's Report No. 59 refers); and

MD's paper is at **Annex C**.

1(d) the feasibility of installing on-shore power facilities in other existing cruise terminals, apart from the new cruise terminal in Kai Tak.

We have already requested the operator of the Ocean Terminal to examine the feasibility of providing on-shore power facilities at its terminal and are awaiting their feedback.

2 The Administration was also requested to consult the Subcommittee on the policy objectives of the legislative proposals to mandate ocean-going vessels to switch to cleaner fuels while berthing in Hong Kong waters.

We are consulting the trades on the proposal and will consult the Panel on Environmental Affairs.

Environment Bureau / Environmental Protection Department
March 2013

Annex A

Criteria for Designation of an Emission Control Area Pursuant to MARPOL Annex VI

An Emission Control Area (ECA) may be considered for adoption by the International Maritime Organisation (IMO) if supported by a demonstrated need to prevent, reduce, and control emissions of nitrogen oxides (NOx) or sulphur oxides (SOx) or particulate matter or all three types of emissions from ships.

Section 3 of Appendix III to MARPOL Annex VI sets out eight criteria for designation of an ECA.

	Criteria	**Proposal**
1	a clear delineation of the proposed area of application, along with a reference chart on which the area is marked	descriptive
2	the type or types of emission(s) that is or are being proposed for control (i.e. NOx or SOx or particulate matter or all three types of emissions)	descriptive
3	a description of the human populations and environmental areas at risk from the impacts of ship emissions	descriptive
4	an assessment that emissions from ships operating in the proposed area of application are contributing to ambient concentrations of air pollution or to adverse environmental impacts. Such an assessment shall include a description of the impacts of the relevant emissions on human health and the environment, such as adverse impacts on terrestrial and aquatic ecosystems, areas of natural productivity, critical habitats, water	● emission inventory compilation ● air quality modeling ● health-death analysis ● air quality benefit analysis (by model/tool or

	Criteria	**Proposal**
	quality, human health, and areas of cultural and scientific significance, if applicable. The sources of relevant data including methodologies used shall be identified	literature review)
5	relevant information pertaining to the meteorological conditions in the proposed area of application to the human populations and environmental areas at risk, in particular prevailing wind patterns, or to topographical, geological, oceanographic, morphological, or other conditions that contribute to ambient concentrations of air pollution or adverse environmental impacts;	descriptive
6	the nature of the ship traffic in the proposed Emission Control Area, including the patterns and density of such traffic	Modeling for ship traffic pattern
7	a description of the control measures taken by the proposing Party or Parties addressing land-based sources of NOx, SOx and particulate matter emissions affecting the human populations and environmental areas at risk that are in place and operating concurrent with the consideration of measures to be adopted in relation to provisions of regulations 13 and 14 of Annex VI	descriptive
8	the relative costs of reducing emissions from ships when compared with land-based control and the economic impacts on shipping engaged in international trade.	● Cost-benefit study on control strategies ● Economic Impact Assessment on economic impacts

Annex B

Adoption of "direct reference approach" to give effect to technical amendments to the international maritime conventions

Purpose

This paper explains the adoption of a "direct reference approach" (DRA) in introducing legislative amendments for incorporating the latest International Maritime Organization ("IMO") standards into the relevant local legislation.

Background

2. The International Convention of the Prevention of Pollution from Ships ("MARPOL") (the Convention) is the main international convention adopted by the IMO for the prevention of pollution from ships. Annex VI to the MARPOL sets out regulations pertaining to air pollution[1]. Its requirements are enforced in Hong Kong through Merchant Shipping (Prevention Of Air Pollution) Regulation, Cap.413M.

3. To enhance the environmental standards, the IMO regularly reviews and amends by tacit acceptance procedures (TAP) the technical provisions of the Convention. TAP is now commonly used for effecting amendments to most IMO conventions. It has the merit of not only substantially shortening the time required to bring an amendment into force but allowing the entry into force date to be pre-determined.

4. Whenever amendments are made to the Convention that are applicable to Hong Kong, the Government is obliged to amend accordingly our local legislation in good time to keep in line with the latest international requirements. Since the enactment of Cap. 413M in June 2008, IMO has amended very frequently MARPOL Annex VI. In parallel, amendments have also been made in respect of maritime safety

[1] Other Annexes to MARPOL deal with oil, noxious liquids in bulk, and harmful substances in packaged form, sewage and garbage.

and other environmental issues. To keep pace with these amendments, Hong Kong will have to complete at least one legislative exercise each year. It is inherently difficult, if not impossible, for Hong Kong to take up the associated workload.

Problems of the Past Legislative Arrangement

5. The pre-1997 local legislation giving effect to IMO conventions was mainly modeled on the UK Merchant Shipping Regulations by re-writing them in different wording. Such an arrangement poses a number of difficulties to both the industry as well as the Marine Department (MD), which is the enforcement Authority of these international requirements.

6. A major drawback of the above arrangement is that when incorporating changes in the international conventions into local legislation, it is very time consuming to identify the provisions in the local legislation corresponding to those in the international conventions and to re-structure subsequently the local legislation to accommodate the changes in the conventions. The problem is aggravated by the frequent amendments made by the IMO. As a result, backlogs would build up.

7. The backlog in updating local legislation to match changes in international conventions could provide a loophole for unscrupulous operators to assign their sub-standard vessels to visit our ports. A case in point is that a foreign ship visiting HKSAR is found to violate certain international conventions that have not been effected in local legislation, MD will simply have no legal basis to impose sanctions against its owner who chooses to ignore instructions to take remedial actions for compliance. It will reflect badly on Hong Kong in discharging its obligations as a maritime administration under the UN Convention of the Law of the Sea. In 2010, Hong Kong was subjected to third party audit under the Voluntary IMO Member State Audit Scheme (VIMSAS). A non-conformity was issued to HKMD for not giving effect to amendments of IMO's mandatory instruments in a timely manner. The VIMSAS will become mandatory in a few years' time.

8. Another drawback is the unnecessary confusion to the industry arising from different wording between the IMO convention and the local legislation. Because of the international nature of the industry, those in shipping business would normally make reference direct to the IMO conventions but not the local legislation.

9. To address the above problems, we have a greater use of DRA to effect changes in international conventions in local legislation.

Principles on using DRA

10. DRA is an efficient means of making regulations but must not be used without restrictions. As a matter of principle, DRA will only be applied to implement the technical provisions of the IMO conventions and their amendments meeting the following criteria:

(a) provisions related to requirements which may be amended by TAP of the relevant IMO conventions to which a party is obliged to accept and implement the amendments adopted by such procedures unless that have been expressly denounced in good time.

(b) provisions to which any future amendments should NOT touch upon the general principle or in any way alter the primary objective of the regulation in question.

(c) provisions related to requirements that would normally be of interest only to the relevant profession，i.e. those which the general public or the LegCo members would have no interest to know or would have difficulty to understand the technical details.

11. To facilitate the use of DRA, it is also necessary to avoid the imposition of fines or imprisonment as penalty for non-compliance of the relevant provisions. The most effective sanction to be applied to offenders in fact is withholding or cancellation of the relevant certificate that certifying full compliance, as such action would effectively stop a ship from operating, which carries a heavy financial penalty to the

shipowner.

Advantages of using DRA

12. DRA has following advantages –

(a) The local legislation can be made simpler with the international requirements fully in line with the IMO conventions.

(b) It makes the local legislation more user-friendly as the shipowners or masters will no longer be confused by the existence of the two sets of regulations namely, the local legislation and the IMO conventions both of which stipulate the same requirements but with variance in wordings. The parties involved in the legislative process will also benefit from the much simpler legislative work.

(c) It removes the need of amending the relevant local legislation whenever the technical provisions or requirements of the IMO conventions are amended.

(d) It will expedite and simplify the legislation process to enable the local legislation to be kept in pace with the amendments that come up from time to time from IMO conventions.

(e) It appears the only way to clear the current back1ogs.

Precedence

13. DRA in fact is not new or unprecedented and has been used a few times to give effect to international requirements both in Hong Kong and other countries.

14. In Hong Kong，DRA has been used in the following local legislation under Cap. 369, Cap.413 and Cap. 582 –

(i) Merchant Shipping (Safety)(Carriage of Cargoes) Regulation, Cap. 369AV.

This Regulation gives effect to the requirements on cargo stowage and securing and the carriage of dangerous goods by making reference to the "Code of Safe Practice for Cargo Stowage and Securing" and the "International Maritime Dangerous Goods (IMDG) Code". The two Codes are not reproduced in the Regulation.

(ii) Merchant Shipping (Safety)(High Speed Craft) Regulation, Cap. 369AW

This Regulation gives effect to the safety requirements on high-speed craft by making reference to the "International Code of Safety for High Speed Craft (HSC)". The Code is not reproduced in the Regulation.

(iii) Merchant Shipping (Safety)(Safety Management) Regulation, Cap. 369AX

This Regulation gives effect to the requirements on management for safe operation of ships by making reference to the "International Management Code For the Safe Operation of Ships and for Pollution Prevention (ISM)". The Code is not reproduced in the Regulation.

(iv) Merchant Shipping (Safety)(Life-saving Appliances) Regulation, Cap.369AY

This Regulation gives effect to the safety requirements on life-saving appliances provided on board vessels by making reference to the SOLAS Chapter III and the "International Life-Saving Appliance (LSA) Code". Both the text of SOLAS Chapter III and the LSA Code are not reproduced in the Regulation.

(v) Merchant Shipping (BCH Code) Regulations, Cap. 413D and Merchant Shipping (IBC Code) Regulations, Cap.413E

These Regulations give effect to the BCH Code and IBC Code by direct reference. The Codes are not reproduced in the Regulations.

(vi) Merchant Shipping (Security of Ships and Port Facilities) Rules, Cap. 582A

This Regulation gives effect to the requirements on security of ships and port facilities by making reference to the SOLAS Chapter XI-2 and the "International Ship and Port Facility Security (ISPS) Code". Both the text of Chapter XI-2 and the ISPS Code are not reproduced in the Rules.

15. Some countries have applied DRA to give effect to 1MO conventions. The examples are –

(i) Australian Marine Orders - Part 41: Carriage of Dangerous Goods (Issue 7)

This Order directly refers to SOLAS Chapter VII to give effect to the requirements on carriage of dangerous goods.

(ii) Canadian Safety Management Regulation

This Regulation directly refers to SOLAS Chapter 1X to give effect to the requirements on management for safe operation of ships and the ISM Code.

(iii) UK Merchant Shipping (Safety of Navigation) Regulations

This Regulation directly refers to SOLAS Chapter V to give effect to the requirements on the safety of navigation.

Marine Department
February 2013

Annex C

Application of the Ringelmann Chart in conducting dark-smoke visual surveys of vessels navigating in Hong Kong waters; and Progress made by the Administration in setting an objective standard for determining dark-smoke emissions from vessels by making reference to the Ringelmann Chart

(A) <u>The application of the Ringelmann Chart for dark-smoke visual surveys of vessels</u>

Pending legislative amendment, MD has since 2005 been adopting the Ringelmann chart as a reference in conducting annual ship surveys and during visual surveys for dark smoke control. For the latter, MD officers in patrol launches take random visual surveys of different types and sizes of vessels in the waters of Hong Kong. The surveys can be made while the vessel is stationary or while it is moving. MD patrol launches will follow the vessels being surveyed, and observe the emission by comparing the level of darkness of the smoke emitted against the Ringelmann Chart and time the duration of the emission. The results are recorded for monitoring and necessary enforcement actions.

(B) <u>Progress made by the Administration in setting an objective standard by reference to the Ringelmann Chart</u>

i) Under the Shipping and Port Control Ordinance (Cap. 313) and the Merchant Shipping (Local Vessels) Ordinance (Cap. 548), the specified person, e.g. the owner and master/coxswain of a vessel, would only be subject to prosecution if the vessel emitted smoke in such a quantity as to be a nuisance.

ii) In April 2008, MD consulted the local vessel trade on the adoption of Shade 1 of the Ringelmann Chart as an objective benchmark for determining excessive dark-smoke emissions by vessels. It was a more stringent standard compared to the Shade 2 adopted for the annual ship survey and was meant to align with the standard for measuring emission of dark smoke by a chimney or a plant as

provided under the Air Pollution Control (Smoke) Regulations (Cap. 311C). The trade raised objection to the proposal, arguing that different standards should be used for vessels due to the different engine specifications and operations involved. As there was no consensus, the legislative proposal was not taken forward then. Meanwhile, MD has continued to deter dark smoke emission through enforcing the Ringelmann Chart Shade 2 standard in the annual ship survey. Having considered the industry's views and overseas experience, THB and MD have drawn up a revised proposal for consultation with the trade recently. Subject to the feedback of the industry, we aim to consult the LegCo Panel on Economic Development on the legislative proposals by June 2013.

iii) Subject to enactment of the legislative amendments, the MD would review whether to re-launch the Smoky Vessels Spotter Programme under which spotters were trained to assist in detecting dark-smoke emissions from vessels in Hong Kong waters.

The Ringelmann Chart

Marine Department
February 2013