

**AIR QUALITY OBJECTIVES (AQO) REVIEW WORKING GROUP
MARINE TRANSPORTATION SUB-GROUP**

**Digest of the 1st Meeting
held on 23 June 2016 at 3:00 p.m.
in Conference Room, 33/F., Revenue Tower, 5 Gloucester Road, Wanchai**

Present:

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| Ms. Christine LOH | Under Secretary for the Environment (Chairperson), Environment Bureau (ENB) |
| Mr. Andrew LAI | Deputy Director of Environmental Protection (3) (Vice-chairperson), Environmental Protection Department (EPD) |
| Mr. Arthur BOWRING | |
| Mr. Tony TONG | |
| Mr. David KONG | |
| Mr. David WONG Yui-cheong | |
| Mr. CHEN Huan-you | |
| Mr. KEUNG Siu-fai | |
| Mr. CHIANG Sui-ki | |
| Mr. Ellis CHUNG | |
| Mr. Jeff BENT | |
| Prof. John LIU Jian-hua | |
| Mr. FUNG Pak-sing | |
| Mr. Simon NG | |
| Mr. MOK Wai-chuen | Assistant Director of Environmental Protection (Air Policy), EPD |
| Mr. Brian LAU | Acting Principal Environmental Protection Officer (Air Policy), EPD |
| Mr. LAI Ying-keung | Chief (Marine Policy), Marine Department (MD) |

In Attendance:

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| Ms. Josephine HO | Acting Senior Environmental Protection Officer (Air Policy) 1, EPD |
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| Dr. Peter LOUIE | Senior Environmental Protection Officer (Air Policy) 5, EPD |
| Mr. Simon LAM | Environmental Protection Officer (Air Policy) 11, EPD |
| Ms. Clara CHEUNG | Environmental Protection Officer (Air Policy) 51, EPD |
| Dr. Jackie NG | Assistant Environmental Protection Officer (Air Policy) 12, EPD |

Absent with apologies:

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| Ms. Louisa YAN | Principal Assistant Secretary (Transport)10, Transport and Housing Bureau (THB) |
| Ms. Jessie CHUNG | |
| Ms. Sandy MAK | |
| Mr. Sunny HO | |
| Mr. KWOK Tak-kee | |

The **Vice-chairperson** welcomed Members to the first meeting of the Marine Transportation sub-group. He said that the Under Secretary for the Environment would join the meeting late as she was now in the Legislative Council. He briefed Members on the agenda of the meeting.

Agenda Item 1 – Guidelines on “Declaration of Interests”

2. Members were briefed on the guidelines on “Declaration of Interests”.

Agenda Item 2 – Terms of Reference and Work Plan of the Sub-group (MT Paper 1/2016)

3. Members were briefed on the terms of reference and work plan of the sub-group and raised no comment.

Agenda Item 3 – Overview of the marine emissions and the relevant control measures (MT Paper 2/2016)

4. Members were briefed on the nature and level of marine emissions in Hong Kong in 2014 and the implementation of control measures to reduce marine emissions in recent years.

5. In response to a member's query, the Administration said that air quality in the vicinity of the Kwai Chung container terminals had improved after the implementation of the Air Pollution Control (Ocean Going Vessels)(Fuel at Berth) Regulation (the Regulation) on 1 July 2015 which required ocean going vessels (OGVs) to switch to the use of low sulphur diesel while at berth in Hong Kong waters. The Environmental Protection Department (EPD) was analyzing the air quality data recorded at the Kwai Chung air quality monitoring station and would share the findings with Members in due course.

6. In response to an enquiry from a member, the Administration clarified that the prevailing capping on sulphur content of marine fuel used by OGVs, i.e. not exceeding 3.5%, was set by the International Maritime Organization (IMO) which had been implemented since 2012. IMO was conducting studies to review the feasibility of further tightening the fuel sulphur content globally to 0.5% from 2020 onwards.

Agenda Item 4 – Exploring measures that improve air quality for marine transportation

7. Mr. FUNG Pak-sing, declared his interest of being an employee of an oil company.

8. The following new air quality improvement measures were proposed and discussed in the meeting:

Use of clean fuel

- (a) Explore the use of Liquefied Natural Gas (LNG) for marine vessels;
Some members considered that LNG was clean, low cost and could be used on different types of vessels. The development of LNG bunkering facilities for marine vessels would also help uphold the competitiveness of Hong Kong's port.
- (b) Explore the use of biofuel (e.g. B5 biodiesel), fuel cell, hybrid power, Liquefied Petroleum Gas (LPG), methanol, etc. for marine vessels;

(c) Explore the use of diesel electric and electrical vessels; nuclear and renewable energy, e.g. wind and solar energy for marine vessels;

(d) OGVs at berth should be required to use marine diesel with lower sulphur content, e.g. not exceeding 0.1%;

Some members suggested that the shipping trade should be duly consulted on the proposed measures.

(e) Local vessels to use on-shore power supply (OPS) while at berth;

A member suggested that OPS would be applicable to local vessels during berthing for reducing fuel consumption and engine maintenance. A member supplemented that OPS was a relatively old technology and its application in OGVs had been declining since it was only restricted to vessels at berth and the electricity charge could be high especially for large vessels such as cruises which had a high electricity consumption. Nowadays, sea water scrubbers and other emission control devices were increasingly used in OGVs for reducing air pollutant emissions at all operating conditions.

Technical measures

(f) Pleasure crafts to use 4-stroke outboard engines instead of 2-stroke engines in order to reduce emissions ;

(g) Install particulate filters on engines of local vessels;

Fuel economy, energy efficiency and port management

(h) Impose levy or restriction on aged and polluting OGVs from entering Hong Kong;

Some members said that aged OGVs were less fuel efficient and more polluting. Shanghai and Guangzhou had already implemented similar measures to impose levy or restriction to aged vessels from entering their ports. Nevertheless, a member responded that old vessels could also have less emissions with good construction and maintenance.

(i) Optimize port efficiency to shorten waiting and turnaround time of OGVs and river trade vessels at ports and container terminals;

Some members considered that the measure could help reduce fuel consumption of vessels and uphold the competitiveness of Hong Kong's port.

(j) Slow-steaming of OGVs in Hong Kong waters;

- (k) Explore the use of light-weight carbon fibre for local vessels;
- (l) Step up maintenance of local vessels, e.g. adjusting propeller pitch angle, regular servicing of propeller and ship hull, etc.;
- (m) Explore the use of variable frequency drives (VFD) on motors for pumps and fan systems on board local vessels;
- (n) Explore ways to recover heat energy from main engines of OGVs;
- (o) Develop devices to monitor engine performance of local vessels (e.g. fuel consumption, revolutions per minute (rpm), etc.);
A member said that the device could assist operators to optimize fuel economy during operation.
- (p) Use energy efficient electrical devices on board local vessels, e.g. LED lightings;
- (q) Develop guidelines on fuel and energy saving measures for the marine trade;

Other suggestions

- (r) Remove floating rubbish for smooth operation of small local vessels;
- (s) Government to expedite the approval process of new local vessels, in order to encourage ship owners to buy new vessels instead of used vessels.

9. The Administration made the following responses to Members' views:

- (a) This meeting aimed at brainstorming on new air quality improvement measures for the marine transportation. The practicability to implement the proposed measures would be further discussed in forthcoming meetings. Before the introduction of any new air quality improvement measures, views from the relevant trades would be duly consulted.
- (b) With regard to financial incentives or funding for supporting trials of new technologies to enhance energy efficiency of vessels and reduce marine emissions, Members were encouraged to make use of the Pilot Green Transport Fund. The Secretariat would provide information on the Fund to Members after the meeting.

[Post-meeting note: The Secretariat had provided the information on the Pilot Green Transport Fund to Members via e-mail on 11 July 2016.]

- (c) EPD would check the responsible party for the collection and recycling of waste lubricating oil from vessels at sea.
- (d) With respect to emissions from OGVs transiting Hong Kong waters and their impact on air quality, Members were briefed on the implementation plan issued by the Ministry of Transport (MoT) in December 2015 for the setting up of a domestic emission control area (ECA) in the Pearl River Delta (PRD) waters with effect from 2019. Such emissions would eventually be controlled under the ECA.
- (e) The optimization of port efficiency would be discussed in the Hong Kong Maritime and Port Board (Port Board) established under the Transport and Housing Bureau. Members, in particular those who were also committee members of the Port Board were encouraged to put forward their views through that channel.
- (f) The Administration would compile a list of the new air quality improvement measures suggested by Members at this meeting so as to facilitate further discussions in the next sub-group meeting.
[Post-meeting note: A list of new air quality improvement measures with their key considerations was incorporated in MT Paper 3/2016 for discussion at the next sub-group meeting.]

Agenda Item 5 – Any other business

No other business was raised.

Agenda Item 6 – Date of the next meeting

10. The next meeting would be held on 22 July 2016 (Friday). The meeting was adjourned at 4:40 p.m.