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15 October 2007

Legislative Council Secretariat
Legislative Council Building
8 Jackson Road, Central
Hong Kong
(Attn: Miss Erica WONG)

By Fax (2521 7518) and
Email (lywong@legco.gov.hk)
(Total 5 + 13 pages)

Dear Miss WONG,

Replacement of Old Engines with Green Engines

Thank you for your letter of 28 September 2007 on the subject matter and the Merchant Shipping (Prevention of Air Pollution) Regulation.

You mentioned in your letter the request of the Hong Kong Fishery Alliance (hereinafter referred to as “the Complainant”) for a thorough consultation by the Marine Department (MD) on the regulation of existing marine diesel engines and on the requirements for newly-built vessels upon the commencement of the Merchant Shipping (Prevention of Air Pollution) Regulation (hereinafter referred to as “the Regulation”). In fact, MD has briefed the industry on the requirements under Annex VI of the International Convention for the Prevention of Pollution from Ships (hereinafter referred to as “MARPOL Annex VI”) as early as 2005, and thereafter has started consulting the industry, via the then Provisional Local Vessels Advisory Committee (PLVAC) and other channels, on the enactment of the local legislation to implement the international standard. After more than two years of thorough consultation and drafting, the Regulation was gazetted on 6 July 2007. The definition of “relevant diesel engines”, relevant standards and the requirements

for such engines were stated. The Regulation was tabled to the Legislative Council for scrutiny on 11 July 2007.

In gist, according to the Regulation, a “relevant diesel engine” is a diesel engine with a power output of more than 130kW (equivalent to about 174 hp) that is installed on a specified ship constructed on or after 1 January 2000 or that undergoes major conversion on or after 1 January 2000. Such “relevant diesel engines” should be subject to the emission standard of nitrogen oxide specified in the Regulation. This standard is not applicable to local vessels constructed before the commencement date of the Regulation or engines have not undergone major conversion on or after the commencement date. Also, the requirement is not applicable to engines with a power output of equal to or less than 130kW.

As regards the cut-off date for existing relevant diesel engines installed on local vessels, it was originally proposed in the consultation papers that the Regulation would cover diesel engines installed on ships after 19 May 2005 (the date at which MARPOL Annex VI entered into force). During the consultation, the industry reflected the operational difficulty in meeting the proposed cut-off date due to the industrial practice of having spare engines and the fact that some engines had been ordered or even installed on board after that day when the consultation was conducted. MD took their view and eventually adopted the commencement date of the Regulation as the cut-off date if the vessels are engaged in non-international voyages. As a result, relevant diesel engines installed on local vessels constructed before the commencement date and the engines that have not undergone a major conversion on or after that date are not subject to the emission requirements.

Regarding the spare engines as mentioned in your letter, MD has indeed, by administrative means, introduced to the industry in early 2007 the voluntary registration of existing diesel engines. A shipowner may register one spare engine for each engine fitted on the vessel. The serial numbers and other particulars of spare engines should be submitted to MD for registration on or before the commencement date of the Regulation. Registered spare engines would be considered as existing diesel engines which could be used on board the concerned ship after the implementation of the Regulation. So far some 40 spare marine diesel engines have been registered. The Administration will further promote the registration system through various channels.

During the consultation process in the last two years, matters for consultation raised by the Complainant in their letter have already been covered. As a member of the PLVAC, the Complainant has actively participated in the discussion at PLVAC meetings. The relevant consultation papers, which set out the detailed technical specifications, are enclosed at Annex A to C for your reference.

Considering the number of technical requirements involved and the detailed arrangements for implementation, MD maintains the channel of communication with the industry through various activities with a view to communicating with them and explaining to them the specific requirements of the Regulation and the detailed arrangements for implementation. In order to establish more effective communication with MD for smooth implementation of the Regulation, local marine sectors have, on their own initiative, set up a Joint Conference of Hong Kong Marine Sectors (the Joint Conference) comprising the fishermen's organisations, cargo vessel traders' association, motor boat and tug boat association, machinery traders' association, etc. The Complainant is also a member of the Joint Conference. On 8 May 2007, the Joint Conference met with MD to put forth the views of the industry. On 22 July 2007, the Joint Conference jointly organized a seminar with MD to provide a platform for exchange of views on technical matters in respect of implementation and to raise the awareness of the industry on the prevention of air pollution.

To speed up the gathering of views in relation to the implementation of the Regulation from the industry, MD has been working closely with the Joint Conference in an interactive way in which the Joint Conference will reach a consensus among the industry before the discussion with MD for implementation of the requirements. On 20 September 2007, the Joint Conference held a meeting at which representatives of marine sectors and fishermen's organisations were present. At this meeting, the industry generally reached a consensus on the registration system of existing diesel engines. Their next meeting will be held in late October and MD will send representatives to attend and further elaborate on the details of the Regulation and the registration system.

We note that the Complainant would like the Government to consider modelling on the incentive scheme launched in 2007, which offers a time-limited one-off grant to encourage the early replacement of pre-Euro and

Euro I diesel commercial vehicles by new commercial vehicles compliant with the prevalent statutory emission requirement stipulated in the Air Pollution Control (Vehicle Design Standard) (Emissions) Regulations (Cap. 311J), to provide subsidies to the fishing vessels for their replacement of engines. There is, however, a fundamental difference between the nature and objective of that incentive scheme and that of the Regulation.


According to Cap. 311J, newly registered vehicles (including those for commercial purposes) are required to comply with its statutory emission requirements irrespective of whether the new vehicles are for replacing existing registered vehicles. Nevertheless, replacement of existing registered vehicles is not a statutory requirement under Cap 311J. In these aspects, Cap 311J and the Regulation in question are similar. As far the compliance with the statutory requirement is concerned, neither Cap 311J nor the Regulation provides financial incentive.

Although the replacement vehicle in the incentive programme needs to comply with the emission requirements in Cap. 311J, the incentive programme is independent of Cap. 311J. Its objective is to encourage vehicle owners to replace early their existing pre-Euro and Euro I commercial vehicles with new commercial vehicles compliant with the prevalent statutory emission requirements in Cap. 311J.

On the other hand, the objective of the Regulation in question is to fulfil our international convention obligation to bring the vessels emission standards in Hong Kong on par with the standards of the International Maritime Organization. Compliance with legal requirements under the Regulation is all that is expected of the vessel owners. As such, there is no question of providing incentive for vessel owners to meet legal requirements.

The Administration has been making efforts to assist the industry in their compliance with the legal requirement under the Regulation. Since 2005, the Administration has been sincerely engaging the industry in discussing the drafting and implementation of the Regulation. In order to minimize the impact on the industry, the Regulation does not require the existing local vessels to replace their existing engines. Taking into account the operational practice of fishing vessels, MD has also introduced the registration system for spare engines. We will continue to communicate with the various parties, and will help the industry to meet the statutory requirements.

Any enquiries can be addressed to Mr. K L Lee (Tel: 2852 4404), Assistant Director of the Marine Department or Mr. Daniel Fong (Tel: 2121 2340), Assistant Secretary for Transport and Housing.



(Miss Winky So)
for Secretary for Transport and Housing

C.C.

Director of Marine (Attn.: Mr. K L LEE) – 3101 0026

Marine Department Notice No. 71 of 2005

(Miscellaneous Information)

Implementation of MARPOL Annex VI on locally licensed Vessels

MARPOL Annex VI for the Prevention of Air Pollution from ships comes into force internationally on 19 May 2005. Annex VI will apply to all ships whether they are sea-going or operating in local waters. Hong Kong is now preparing for the necessary legislation for its implementation of Annex VI. In principle all current and subsequent (subject to the adoption of IMO circular letter number 2598 at MEPC 53) Annex VI requirements will apply to locally licensed vessels in addition to Hong Kong registered ships and all foreign ships in Hong Kong waters.

2. This Notice serves to clarify certain points in the application of MARPOL Annex VI on locally licensed vessels so as to facilitate the shipowners, ship operators and agents to operate their vessels in compliance with the relevant requirements.

Main requirements

3. The main requirements of MARPOL Annex VI are:

- (a) Deliberate emission of ozone depleting substances including halons and chlorofluorocarbons (CFCs) will be prohibited. Also, new installations containing ozone-depleting substances will be prohibited on all ships. However, new installations containing hydro-chlorofluorocarbons (HCFCs) may be allowed until 1 January 2020.
- (b) A global cap of 4.5% m/m on the sulphur content of fuel oil used on board ships together with limitation of sulphur oxide emissions from ship exhausts will be imposed.
- (c) There will be designated "SO_x Emission Control Areas" that may impose more stringent sulphur oxide emission controls. In these areas, the sulphur content of fuel oil used on board ships must not exceed 1.5% m/m, unless the ship is fitted with an exhaust gas cleaning system (or by using other technological methods) to limit its SO_x emission.
- (d) The quality of fuel oil delivered or used on board ships must comply with Annex VI required standards.
- (e) Nitrogen oxides (NO_x) emission from diesel engines will be limited to Annex VI requirements.

The contents relating to the control of Nitrogen oxide (NOx) emission from exhaust gas of diesel engines fitted on board vessels are prescribed under Regulation 13 of the Annex, of which the control NOx limits are summarized as follows:

	Rated Engine Speed n [crankshaft revolutions per minute (rpm)]	Maximum allowable NOx-emissions (g/kWh)
(i)	$n < 130$	17
(ii)	$130 \leq n < 2000$	$45n^{-0.2}$
(iii)	$n \geq 2000$	9.8

(f) Volatile organic compound emission from tankers during loading may be subject to controls from Administration.

(g) Shipboard incineration will be regulated.

4. It should be noted that, in accordance with Regulation 13(1)(a) of Annex VI, the regulation of nitrogen oxide (NOx) emission applies to diesel engines with output power of more than 130 kW installed on ships, including those engines that have undergone major conversions on or after 1 January 2000.

5. Regulation 18 of Annex VI, which deals with fuel oil quality that will be allowed to be used on board ships, requires that:

- (a) fuel oil used on board ships for combustion purposes must comply with the quality standards required by Annex VI;
- (b) all ships of 400 gross tonnage or above are to record details of the fuel oil used on board, by means of a bunker delivery note. The bunker delivery note must include the information given in Appendix VI of Annex VI; and the bunker delivery note must also contain a declaration signed and certified by the fuel oil supplier's representative to confirm that the fuel oil supplied is in conformity with Annex VI requirements. The bunker delivery note is to be kept on board for ready inspections, and it should be kept for 3 years after the fuel oil has been delivered on board; and
- (c) A representative sample of the fuel oil delivered on board is required to accompany the bunker delivery note; which is to be sealed and signed by the supplier's representative as well as by the master or officer in charge of the bunker operation, and should be kept by the ship for a period of 12 months or until the fuel oil is consumed, whichever is of the latter.

Application to locally licensed vessels

6. The requirements of MARPOL Annex VI are being incorporated to Cap 413, Laws of Hong Kong, as a local legislation. The legislation will require that Hong Kong locally licensed vessels of 400 gross tonnage or above to be issued with a Hong Kong Air Pollution Prevention Certificate (HKAPP) after the completion of a survey. For vessels of less than 400 gross tonnage, inspection during initial and annual survey of the Certificate of Survey or the Certificate of Inspection will be needed to ensure the ship complies with the technical requirements of Annex VI.
7. Although the requirements of MARPOL Annex VI will be subject to the enactment of local legislation, owners and agents of locally licensed vessels are urged to ensure their ships comply with the provisions of Annex VI so far as practicable. Particular attention of owners and agents is drawn that all engines installed on board with power output greater than 130kW will be required to comply with the requirements specified in paragraph 3(e) of this Notice.
8. In order to cater for the need of locally licensed vessels operating outside Hong Kong waters to the river trade limit, owners and agents of locally licensed vessels of 400 gross tonnage or above, if they think necessary, may apply to the Marine Department for the issuance of a Certificate of Compliance to certify their compliance of the necessary requirements under MARPOL Annex VI subject to satisfactory survey. Alternatively, owners or agents may also approach Classification Societies recognized by the Marine Department to issue the Certificate of Compliance.
9. Shipowners, ship operators, ship masters, agents and shipbuilders are requested to note and observe the above with a view to meeting the MARPOL Annex VI requirements.
10. For enquires, please contact Local Vessels Safety Section, 23/F Harbour Building, 38 Pier Road, Central, Hong Kong, telephone number 2852 4431 or facsimile number 2542 4679.

R. F. Tupper
Director of Marine (Ag.)

Marine Department
Government of the HKSAR
Date: 19 May 2005
Action file: SD/S 800/3/1

PLVAC Paper No. 7/2006

PROVISIONAL LOCAL VESSELS ADVISORY COMMITTEE

**Supplementary Paper on Implementation of NOx Requirements
under MARPOL Annex VI on Local Vessels**

1. This paper serves to provide further clarification on the proposal in the PLVAC Paper No. 4/06 on the implementation of MARPOL Annex VI (the Annex) discussed at the PLVAC meeting held on 3 August 2006. The clarification is particularly relevant to the application of NOx requirements to local vessels.

Backgrounds

2. Regulation 13(1)(b)(ii) of the Annex stated that the NOx emission requirement is not applicable to engines installed on ships solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly, provided that such engines are subject to an alternative NOx control measure established by the Administration.
3. Regulation 13(1)(c) of the Annex allows Administrations to exclude ships from the application of NOx requirements to any diesel engine which is installed on a ship constructed, or on a ship which undergoes a major conversion, before the date of entry into force of Annex VI (i.e. 19 May 2005), provided that the ship is solely engaged in voyages within the State the flag of which the ship is entitled to fly.
4. In view of the industry's concerns on the practical difficulties of application and according to paragraph 3 above, diesel engines of more than 130 kW, installed on board local vessels before 19 May 2005 **will not** be subject to the provisions of Regulation 13. However, the Department will monitor NOx emission regularly, and may review the requirements if further efforts are considered necessary to improve air quality in Hong Kong.

Application of NOx emission requirements to Local Vessels

5. Subsequent to 19 May 2005, all diesel engines of more than 130 kW power output installed on board a local vessel constructed/licensed, or a vessel has carried out a major conversion as defined under Regulation 13(2) (a) of the Annex after 19 May 2005, must be subject to NOx emission control. Shipowners and operators should ensure that these engines can meet the relevant requirements.
6. The requirements relating to the control of Nitrogen Oxide (NOx) emission from diesel engines fitted onboard vessels are prescribed under Reg. 13 of the Annex, of which the NOx emission limits are summarised below:-

	Rated Engine Speed (rpm) (n)	Maximum allowable NOx-emissions (g/kWh)
a.	$n < 130$	17
b.	$130 \leq n < 2000$	$45n^{-0.2}$
c.	$n \geq 2000$	9.8

NOx Emission Compliance

- 7.(a) A diesel engine of more than 130 kW power output installed on board a local vessel of 400 gross tonnage and above is required to be certified for full compliance with the provisions of Regulation 13 and the NOx Technical Code by an Engine International Air Pollution Prevention Certificate (EIAPP) together with a Technical File containing record of information as stipulated in para. 2.4 of the Technical Code.
- (b) A diesel engine of more than 130 kW power output installed on board a local vessel of less than 400 gross tonnage, should be certified by an EIAPP certificate or a certificate (with similar format) issued by the engine maker or authorized surveyor or recognized organization showing that it is in compliance with Regulation 13 and the NOx Technical Code, or of a similar standard acceptable to the Director.

8. When the local legislation comes into force, engines mentioned in paragraph 5 will be required to be inspected to confirm their compliance with the NOx requirements of the Annex. All engines are expected to be certified either by the engine manufacturers, authorized surveyors or recognized organizations, as appropriate, for compliance with the relevant NOx requirements.

Periodic Inspection of Engines

9. The NOx Technical Code has allowed for different on-board verification procedures. Owners may hence adopt one of the following procedures for periodic inspection:-
 - (a) engine parameter check method as given in Code procedure 6.2 – on board inspections, including the verification of the engine parameters, critical components, settings and operating data against the engine certificate and Technical File; or
 - (b) simplified measurement method – actual trial run and test run like the engine parent test in the test bed but in a simplified manner as described in the Code procedure 6.3, by verifying against the information in the engine certificate and Technical File, or by similar procedures approved or accepted by the Director; or
 - (c) direct measurement and monitoring method in accordance with para. 2.3.4, 2.3.5, 2.3.7, 2.3.8, 2.3.11, 2.4.4, and 5.5 of the Code.
10. All diesel engines of more than 130 kW power output will be periodically inspected during the safety certification survey of the local vessel, to ensure that they are in compliance with the relevant NOx emission criteria.

Certification

11. Provided the other applicable requirements of the Annex are complied with and upon the satisfactory completion of NOx emission inspection,
 - (a) for self-propelled vessels of 400 gross tonnage and above, the Hong Kong Air Pollution Prevention (HKAPP) Certificate will be endorsed or renewed as appropriate,

- (b) for self-propelled vessels of less than 400 gross tonnage, the Certificate of Survey or Certificate of Inspection issued (with inspection records) for the local vessel will indicate its compliance with MARPOL Annex VI.
- (c) Arrangement for Non-self-propelled Vessels
 - (i) In view of the peculiar characteristics of non-self-propelled vessels. Hong Kong Air Pollution Prevention (HKAPP) Certificate will not be required for these vessels, irrespective of their tonnage.
 - (ii) Diesel engines of more than 130 kW power output will be inspected to verify their compliance with the NOx emission criteria under the Annex as mentioned in above paragraphs 5 to 10. On satisfactory completion of the inspection, the Certificate of Survey or Certificate of Inspection issued (with inspection records) for the vessel will indicate its compliance with the Annex.

Newly licensed Vessels since 19 May 2005

- 12. From the Department's record, about 33 local vessels have been newly licensed since 19 May 2005. The MARPOL Annex VI requirements promulgated in the Marine Department Notice No. 71/2005 and the draft codes of practice issued in 2005 have already provided the necessary guidance for local vessel operators to follow to ensure compliance with the new requirements.

Action Requested

- 13. Members are invited to comment and endorse the proposal for the implementation of the NOx requirements on local vessels.

*Multi-lateral Policy Division
Marine Department
7 September 2006*

Annex C**Extracts****PLVAC Paper No. 9/2006**

Code of Practice – Class I, II & III Vessel Safety Standard

Amendments update as at 20 November 2006

ITEM	CHAPTER	DESCRIPTION	REMARKS
1	Content	Re-arrange the sequence of chapters and annexes of the Code	The re-arrangement is for better presentation.
2	Chapter I - Section 1.6 to 1.13, Section 3	(a) Rearrange Section 1.6 to 1.13 and update relevant chapters and indexes number. (b) Add additional definition, namely, "final inspection" "initial survey" & "periodical survey".	(a) Re-group the technical requirements and operational requirements (b) Additional definition to distinguish different types of survey/inspection
3	Chapter IIIA – Section 12.3.1, Section 19 & Section 20	(a) Insert '(e) the tank coating/paint used shall not cause any health and hygiene risks'. (b) Installation for prevention of oil pollution. (c) Requirements for Hong Kong Pollution Prevention Certificate for the carriage of Noxious Liquid Substances in Bulk.	(a) Add additional condition on water tank of water boat due to comments raised in PLVAC42nd meeting (3 Aug 06). (b) Reproduce Sch7 of Survey Reg regarding the application in prevention of oil pollution (c) Highlight the technical requirements to which an NLS vessel applies
4	Chapter IIIB–Section 9.4.1	Insert '(e) the tank coating/paint used shall not cause any health and hygiene risks'.	Add additional condition on water tank of water boat due to comments raised in PLVAC42nd meeting (3 Aug 06).
5	Chapter X	Re-arrange Chapter XII to X.	Re-group the technical requirements in earlier chapter and operational requirements to last chapter
6	Chapter XII	Re-arrange Chapter X to XII.	--ditto--
7	Annex I-10	Implementation of the Requirements of Annex VI of MARPOL 73/78 to Locally Licensed Vessels.	In response to recent comments received from PLVAC on the revised of this Annex (i.e. Annex VI of MARPOL 73/78 on (prevention of air pollution), further minor revision in detailed technical arrangements, in particular for NOx and oil sample matters are made.

**Implementation of the Requirements of
Annex VI of MARPOL 73/78 to Locally Licensed Vessels**

Annex VI of MARPOL 73/78 for the Prevention of Air Pollution from Ships together with the requirement for diesel engines with Engine International Air Pollution Prevention Certificate (EIAPP) came into force internationally on 19 May 2005. The following relevant requirements will be applied to all locally licensed vessels when the above Annex of the conventions are enforced.

2. The Requirements of Annex VI of MARPOL 73/78 contains wide-ranging regulations covering the following areas:

- (a) Prohibition of the use or release of ozone depleting substances - As per Regulation 12 of Annex VI, deliberate emission of ozone depleting substances including halons and chlorofluorocarbons (CFCs) will be prohibited. Also, new installations containing ozone-depleting substances will be prohibited on all ships. However, new installations containing hydro-chlorofluorocarbons (HCFCs) may be allowed until 1 January 2020.
- (b) Nitrogen oxide (NO_x) emission from diesel engines as per Regulation 13 of Annex VI (refers to requirements of NO_x emission limits in paragraph 5).
- (c) Sulphur oxide (SO_x) emissions from ships - As per Regulation 14 of Annex VI, a global cap of 4.5% m/m on the sulphur content of fuel oil used on board ships together with limitation of sulphur oxide emissions from ship exhausts will be imposed.

There will be designated "SO_x Emission Control Areas" that may impose more stringent sulphur oxide emission controls. In these areas, the sulphur content of fuel oil used onboard ships must not exceed 1.5% m/m, unless the ship is fitted with an exhaust gas cleaning system (or by using other technological methods) to limit its SO_x emission.

- (d) Volatile organic compounds (VOCs) emission from cargo tanks of oil tankers during loading may be subject to controls from Administration as per Regulation 15 of Annex VI. Should such control requirement is notified by an Administration to IMO, there is a three years grace period from the effective date.
- (e) Shipboard incineration of waste as per Regulation 16 of Annex VI.
- (f) Fuel oil quality - As per Regulation 18 of Annex VI, fuel oil quality that will be allowed to be used onboard ships requires that:
 - (i) fuel oil used onboard ships for combustion purposes must comply with the quality standards required by Annex VI;
 - (ii) all ships of 400 gross tonnage or above are to record details of the fuel oil used on board, by means of a bunker delivery note. The bunker delivery note must include the information given in Appendix VI of Annex VI; and the bunker

delivery note must also contain a declaration signed and certified by the fuel oil supplier's representative to confirm that the fuel oil supplied is in conformity with Annex VI requirements. The bunker delivery note is to be kept on board for ready inspections, and it should be kept for 3 years after the fuel oil has been delivered on board; and

- (iii) a representative sample of the fuel oil delivered on board is required to accompany the bunker delivery note; which is to be sealed and signed by the supplier's representative as well as by the master or officer in charge of the bunker operation, and should be kept by the ship for a period of 12 months or until the fuel oil is consumed, whichever is of the latter.

Application MARPOL Annex VI requirements to Local Vessels

3. For local vessels, it has been decided that –

- (a) as regards the requirement in paragraph 2(d), since the VOCs involved is very small in Hong Kong, it is not necessary to impose VOCs emission control to ships loading in Hong Kong at this stage;
- (b) no incinerator is allowed to be installed onboard for the requirement mentioned in paragraph 2 (e); and
- (c) for the requirements mentioned in paragraph 2 (f) such as fuel oil sampling device, keeping of bunker delivery notes and samples -
 - (i) for vessels of less than 400 gross tonnage
 - if the vessel trading only in local waters is using only marine diesel fuel (sulphur contents not more than 0.5% m/m), and solely supplied by local registered fuel oil suppliers^(Note), keeping documentary evidence of bunker delivery notes onboard ready for inspection is suffice for the compliance of regulation 18 of the Annex.
 - For vessels other than the above, control measures on bunker delivery notes and fuel oil samples would be same as those specified in para (3(c)(ii).
 - (ii) for vessels of 400 gross tonnage or above
 - if the vessel is using fuel solely supplied by from registered fuel oil suppliers^(Note), only bunker delivery notes are required to be maintained on board ready for inspection.
 - oil samples in addition to bunker delivery notes are required for the vessel if the fuel oil is not supplied by the local registered fuel oil suppliers or registered fuel oil suppliers outside Hong Kong.

Note: Vessel operators may voluntarily keep fuel oil samples on board for a reasonable period in order to protect their interests in case of a dispute.

- (d) Per para (3(c)(ii), bunker delivery notes should be retained for 3 years and fuel oil samples are to be kept 1 year or until the fuel oil has been subsequently consumed; and they should be readily available for inspection.

4. The application control measures on air pollution prevention to vessels under Annex VI of

MARPOL 73/78 applied to local vessels, which are operated in river trade limits or Hong Kong waters (non international voyages), are as follows:

- (a) For self-propelled vessels of 400 gross tonnage and above
Surveys and inspections on these vessels should be in accordance with Regulation 5 of Annex VI. Upon satisfactory completion of the survey, a Hong Kong Air Pollution Prevention (HKAPP) Certificate is to be issued or endorsed as appropriate.
- (b) For self-propelled vessels of less than 400 gross tonnage and non-self-propelled vessels of any tonnage
A Hong Kong Air Pollution Prevention Certificate (HKAPP Cert) is **not required**. However, an effective visual inspection will be carried out to ensure no unauthorized modifications or installation of equipment in compliance with Annex VI during the initial/annual/periodic safety survey of the vessel for the issuance of the Certificate of Survey or Certificate of Inspection (with inspection record) to indicate its compliance with MARPOL Annex VI.

Application of the NOx emission requirements to Local Vessels

5. The requirements relating to the control of Nitrogen oxide (NOx) emission from diesel engines fitted onboard vessels are prescribed under Reg. 13 of the Annex, of which the control NOx limits are summarized as follows:

	Rated Engine Speed (rpm) (n)	Maximum allowable NOx-emissions (g/kWh)
a.	$n < 130$	17
b.	$130 \leq n < 2000$	$45n^{-0.2}$
c.	$n \geq 2000$	9.8

6. Subsequent to 19 May 2005, all diesel engines of more than 130 kW power output installed on board a local vessel constructed / licensed or a vessel has undergone a major conversion as defined under Regulation 13(2) (a) of the Annex after that date must subject to NOx emission control. Shipowners and operators should ensure that these engines could meet the relevant requirements.
7. The NOx requirements for engine emission do not apply to emergency generator engines, lifeboat engines and any engine installation intended to be used solely for emergency purpose.
8. (a) A diesel engine of more than 130 kW power output installed on board a local vessel of 400 gross tonnage and above is required to be certified for full compliance with the provisions of Regulation 13 and the NOx Technical Code by an EIAPP certificate together with a Technical File containing record of information as stipulated in paragraph 2.4 of the Technical Code.

- (b) A diesel engine more than 130 kW power output installed on board a local vessel of less than 400 gross tonnage, should be certified by an EIAPP certificate or a certificate (with similar format as EIAPP) issued by the engine maker or authorized surveyor or recognized organization showing that it is in compliance with Regulation 13 and the NOx Technical Code or similar standard acceptable to the Director.

9. When the local legislation (Cap. 413 sub-leg.) comes into force, the engines mentioned in paragraph 6 above will be inspected to confirm their compliance with the NOx requirements of the Annex. All engines are expected to be certified either by the engine manufacturers, authorized surveyors or recognized organizations, as appropriate, for its compliance with the relevant Nox requirements.

Periodic Inspection of Engines

10. The Nox Technical Code allows different on-board verification procedures. Owners may adopt one of the following procedures for periodic inspection:
- (a) engine parameter check method as per Code procedure 6.2 – on board inspections including verification of the engine parameters, critical components, settings and operating data against the engine certificate and Technical File; or
 - (b) simplified measurement method – actual trial run and test run like the engine parent test in the test bed but in a simplified manner as described in the Code procedure 6.3 by verifying against the information in the engine certificate and Technical File, or similar procedures approved or accepted by the Director; or
 - (c) direct measurement and monitoring method in accordance with paragraph 2.3.4, 2.3.5, 2.3.7, 2.3.8, 2.3.11, 2.4.4, and 5.5 of the Code.
11. All diesel engines of more than 130 kW power output will be periodically inspected during the safety certification survey of a local vessel to ensure that they are in compliance with the relevant Nox emission criteria.

Implementation schedules

12. The implementation schedules of the relevant Annex VI requirement as indicated in above paragraph 2 and the application measures in paragraph 4 are as follows^(see remarks):
- (a) vessels constructed / licensed on or after 19 May 2005 shall comply.
 - (b) vessels constructed/ licensed before 19 May 2005 are required to comply no later than their first scheduled docking after 19 May 2005, but in no case later than three years, i.e. 19 May 2008, whichever is earlier.
 - (c) vessels installed with diesel engines as mentioned in the above paragraph 6 are required to comply on or after 19 May 2005.

Remarks : (1) The aforementioned requirements will be finalized in the relevant legislation in consultation with relevant Policy Bureaux and Department of Justice.

(2) When the local legislation on Annex VI requirement comes into force, which is expected to be in 2007, all local vessels will be mandatory inspected to

ensure its compliance. Before that commencement date, owners of local vessels are urged for voluntary compliance of the Annex for the issue of a Certificate of Compliance (with inspection records) or Record of Inspection as appropriate.