

**立法會**  
**Legislative Council**

LC Paper No. CB(1)87/14-15(05)

Ref. : CB1/PL/EA

**Panel on Environmental Affairs**

**Meeting on 27 October 2014**

**Updated background brief on  
"Emission control for non-road mobile machinery"  
prepared by the Legislative Council Secretariat**

**Purpose**

This paper provides updated background information on the proposal to mandate the control of air pollutant emissions of non-road mobile machinery ("NRMM"), and gives a brief account of the views and concerns expressed by Members on the subject.

**Background**

2. NRMM include a wide range of mobile or transportable machinery powered by internal combustion engines and are used off-road, which are widely used at construction sites, container terminals and at the airport. They contribute 5% nitrogen oxide ("NO<sub>x</sub>") and 8% respirable suspended particulates ("RSP", also known as PM<sub>10</sub>) to Hong Kong's total air pollution. At present, there is no emission standards for NRMMs for use in Hong Kong, although they must not cause air nuisance or emit excessive dark smoke. NRMM driven by liquid fuel can only use liquid fuel with a sulphur content not exceeding 0.005%.

Proposed control regime on NRMM emissions

3. Having regard to the impacts of emissions from NRMMs, the Administration put forth in May 2010 for stakeholder consultation a proposed scheme to control emissions from NRMMs imported into Hong Kong (except those for re-export) or manufactured locally for sale, lease or use on the Hong Kong market. The original proposed requirements at that time were as follows –

- (a) importers must obtain from the Environmental Protection Department ("EPD") approval regarding emission compliance before importing NRMMs (except those for re-export); and likewise local manufacturers before placing their NRMMs on the local market (for sale, lease or use);
- (b) emission compliance means meeting relevant emission standards, which are broadly in line with the standards of the European Union ("EU"), the United States ("US") and Japan;
- (c) each piece of NRMM (except that for re-export) shall bear a durable and visible engine emission information label for identification. The labelling requirement will not be retrospectively applied to NRMMs imported or placed on the market in the case of locally manufactured products before implementation of the proposed control; and
- (d) failure to comply with the requirements will be liable to a fine ranging from \$50,000 to \$200,000 and imprisonment from three to six months.

4. The Director of Environmental Protection will be empowered to exempt a NRMM or a class of NRMM from the control and impose restrictions on their use as part of the exemption. In gist, NRMMs manufactured solely for export or imported for re-export are not required to meet emission standards and labelling requirements but the latter are still subject to import approval and declaration requirements.

#### Revised proposal

5. In the light of the outcome of the stakeholder consultation, the Administration has revised the proposal subsequently. Under the revised proposal, the Administration proposes to replace the control on import by control on the sale, lease and supply of NRMMs for local use. All NRMMs to be sold or leased for use in Hong Kong must be approved by EPD and properly labelled in future. Existing NRMMs in use before the introduction of the control regime will be exempt from the new requirements but they will also be required to be properly labelled for easy identification. Operators of specified activities, which include specified processes stipulated in Schedule 1 of the Air Pollution Control Ordinance (Cap. 311) ("the APCO"), airport, port facilities, construction sites and designated waste disposal facilities, will also have a duty to ensure that all NRMMs used in their operations are approved by EPD and affixed with an approval label prescribed by EPD.

6. The emission standards for each category of NRMMs remain the same as those set out in the original proposal, which are recapitulated below –

(a) Compression Ignition engines, i.e. those running on diesel

<b>Machinery with engine power ("P") in kW</b>	<b>Proposed standards adopted (on considerations of similar stringency)</b>
$130 \leq P \leq 560$	EU Stage IIIA, US Tier 3 or Japan MoE Stage 2
$75 \leq P < 130$	EU Stage IIIA, US Tier 3 or Japan MoE Stage 2
$37 \leq P < 75$	EU Stage IIIA, US Tier 3 or Japan MoE Stage 2
$19 < P < 37$	EU Stage IIIA, US Tier 2 or Japan MoE Stage 2

(b) Spark Ignition engines, i.e. those running on petrol or liquefied petroleum gas

<b>Machinery with engine power ("P") in kW</b>	<b>Proposed standards adopted (on considerations of similar stringency)</b>
$19 < P \leq 560$	US Tier 2 or Japan MoE current standard

7. The Administration further consulted the stakeholders from June to September 2011 on the revised proposal. Some stakeholders have suggested creating, for easy identification, another type of approval labels for NRMMs granted conditional approval. These NRMMs may include those highly specialized equipment which do not meet the required emission standards. In response to the suggestion, the Administration has included in the revised proposal a third type of labels for NRMMs granted conditional approval. For identification purpose, such labels will be in a different colour and bear a statement indicating that the NRMMs are conditionally approved.

#### "A Clean Air Plan for Hong Kong"

8. The Environment Bureau unveiled "A Clean Air Plan for Hong Kong" in March 2013 to put forward a series of respective air quality improvement measures covering land and marine transport, power plants and NRMMs in order to tackle air pollution. The document is hyperlinked in the **Appendix**.

#### **Deliberations by Members**

9. The proposal to control emissions of non-road mobile sources was discussed by the Subcommittee on Improving Air Quality ("the Subcommittee") at its meeting on 11 May 2010. The revised proposal was discussed by the Panel on Environmental Affairs ("the Panel") at its meeting on

27 February 2012. The major views and concerns expressed by Members at the meetings of the Panel and the Subcommittee are summarized in the ensuing paragraphs.

#### Discussion by the Subcommittee on Improving Air Quality

10. Subcommittee members had enquired about the environmental benefits to be achieved through the proposed control of emissions from NRMMS, and the basis upon which the penalty regime under the control scheme was arrived at. They also stressed the need for consultation with the affected importers and the logistical trades. According to the Administration, if all NRMMS were replaced with ones meeting the prescribed emission standards, 4.7% (4 500 tonnes) and 9% (500 tonnes) of the local emissions of NO<sub>x</sub> and RSP would be reduced respectively. The environmental nuisance generated at container terminals and construction sites near the urban centres could be reduced. The smoke emitted by NRMMS would also be reduced, enhancing the green image of Hong Kong. The Administration further explained that when drawing up the penalty regime, reference had been made to the provisions in the APCO and the Ozone Layer Protection Ordinance (Cap. 403) and their subsidiary regulations on the import, manufacture and sale of controlled substances. Reference had also been made to overseas jurisdictions' penalty regimes in controlling emissions from non-road mobile sources. A comparison of the proposed penalty regime with those of the US, Japan and Canada had been provided to members for reference. The logistical trades and importers of NRMMS would be included in the consultation exercise.

#### Discussion by the Panel on Environmental Affairs

11. While there was a general support for the need to control emissions from NRMMS, some Panel members held the view that the proposed control should not only apply to new NRMMS but also to existing NRMMS. They urged the Administration to consult the trades with a view to including the proposed extension of control to existing NRMMS in the legislation.

12. As NRMMS were commonly used at airport, container terminals and construction sites, the emissions from which might affect the health of workers and passengers, some other members considered that there should be measures to encourage early replacement of existing NRMMS.

13. Noting that legislative amendments would be required to implement the control regime, members opined that opportunity should be taken to include a time frame within which the existing NRMMS should be phased out. Consideration should also be given to requiring existing NRMMS to undergo regular tests to ascertain their emission performance, similar to that applied to vehicles. This would ensure that NRMMS in use would meet the emission

compliance requirements, and encourage early replacement of polluting NRMMs.

### **Council question**

14. Hon James TO raised a question relating to the control on the emissions of non-road mobile sources at the Council meeting on 14 December 2011. Details of the Council question are hyperlinked in the **Appendix** for ease of reference.

### **Latest development**

15. The Administration will brief the Panel on the progress in making a subsidiary regulation under the APCO to control the air pollutant emissions of NRMM at the Panel meeting on 27 October 2014.

### **Relevant papers**

16. A list of relevant papers is set out in the **Appendix**.

## Appendix

### List of relevant papers

Council/ Committee	Date of meeting	Paper
Subcommittee on Improving Air Quality	11 May 2010	<p>Administration's paper on "A Proposal to Control Emissions of Non-road Mobile Sources" (LC Paper No. CB(1) 1824/09-10(01)) <a href="http://www.legco.gov.hk/yr09-10/english/panels/ea/ea_iaq/papers/ea_iaq0511cb1-1824-1-e.pdf">http://www.legco.gov.hk/yr09-10/english/panels/ea/ea_iaq/papers/ea_iaq0511cb1-1824-1-e.pdf</a></p> <p>Minutes of meeting (LC Paper No. CB(1) 2619/09-10) <a href="http://www.legco.gov.hk/yr09-10/english/panels/ea/ea_iaq/minutes/iaq20100511.pdf">http://www.legco.gov.hk/yr09-10/english/panels/ea/ea_iaq/minutes/iaq20100511.pdf</a></p>
Panel on Environmental Affairs	27 February 2012	<p>Administration's paper on "Controlling emissions of non-road mobile sources" (LC Paper No. CB(1) 1119/11-12(03)) <a href="http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea_0227cb1-1119-3-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea_0227cb1-1119-3-e.pdf</a></p> <p>Background brief on the proposal to control emissions from non-road mobile sources prepared by the Legislative Council Secretariat (LC Paper No. CB(1) 1119/11-12(04)) <a href="http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea_0227cb1-1119-4-e.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ea/papers/ea_0227cb1-1119-4-e.pdf</a></p> <p>Minutes of meeting (LC Paper No. CB(1) 1493/11-12) <a href="http://www.legco.gov.hk/yr11-12/english/panels/ea/minutes/ea20120227.pdf">http://www.legco.gov.hk/yr11-12/english/panels/ea/minutes/ea20120227.pdf</a></p>

Hyperlink to relevant Council Question:

Date	Council Question
14 December 2011	<p>Council question raised by Hon James TO <a href="http://www.info.gov.hk/gia/general/201112/14/P201112140161.htm">http://www.info.gov.hk/gia/general/201112/14/P201112140161.htm</a></p>

Hyperlink to relevant document:

<b>Government bureau/department</b>	<b>Document</b>
Environment Bureau in collaboration with Transport and Housing Bureau Food and Health Bureau Development Bureau	A Clean Air Plan for Hong Kong <a href="http://www.enb.gov.hk/sites/default/files/New_Air_Plan_en.pdf">http://www.enb.gov.hk/sites/default/files/New_Air_Plan_en.pdf</a>