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來函檔號 YOUR REF.: CB1/PL/TP

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10 April 2013

Clerk to Panel on Transport  
Legislative Council Secretariat  
Legislative Council Complex  
1 Legislative Council Road  
Central, Hong Kong  
(Attn: Ms Sophie Lau)  
[Fax: 2521 7518]

Dear Ms Lau,

### **Air Quality Inside Franchised Buses**

Thank you for your letter of 15 March 2013. In response to the issues raised by the Hon Gary Fan Kwok-wai and Hon Tang Ka-piu concerning the air quality inside compartment of buses of The Kowloon Motor Bus Company (1933) Limited (“KMB”) and Long Win Bus Company Limited (“LW”), our response based on information gathered from the Environmental Protection Department (“EPD”) is set out below.

Public bus operators are responsible for providing good air quality inside bus compartments. In order to help the public bus operators discharge this responsibility, EPD issued the “Practice Note for Managing Air Quality in Air-conditioned Public Transport Facilities – Buses” in 2003. Please refer to the reply from the Secretary for the Environment to a LegCo written question on air quality inside bus compartments on 27 March for the key points of the Practice Note and the relevant arrangements. The reply is enclosed at **Annex I**.

Separately, we note that KMB and LW have issued a press release on their air purification system and the monitoring of air quality. The press release (Chinese version only) is at Annex II for reference.

Yours sincerely,



(Annie Yu)  
for Secretary for Transport and Housing

c.c.

Commissioner for Transport (Attn : Mr Ken Hui)  
Director of Environmental Protection (Attn: Mr S.W. Pang)

## Press Releases

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LCQ16: Air quality in buses and railway  
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Following is a question by the Hon Tang Ka-piu and a writer reply by the Secretary for the Environment, Mr Wong Kam-sing, in the Legislative Council today (March 27):

Question:

The authorities published a set of practice notes for managing air quality in air-conditioned buses and railway facilities (practice notes) in November 2003 to provide guidance on how to ensure the maintenance of better air quality inside these facilities and compartments. Moreover, the Audit Commission made a number of recommendations regarding the practice notes in 2011 with a view to improving the indoor air quality in public transport facilities. The recommendations include: (i) publishing on the website of the Environmental Protection Department the extent of compliance with the practice notes by public transport operators (operators) for public information; (ii) giving commendations to operators for adopting the practice notes; and (iii) publishing indoor air quality practice notes for other public transport facilities. The authorities subsequently advised that they would examine the feasibility of these recommendations. In this connection, will the Government inform this Council:

(a) whether the authorities have reviewed the practice notes since November 2003; if they have, of the outcome of the review; if not, the reasons for that;

(b) whether it has put in place a mechanism to regularly monitor if operators have complied with the practice notes; if so, of the details of the mechanism; if not, the reasons for that; whether the operators are required to submit reports regularly on their extent of compliance with the practice notes; if so, of the details, if not, the reasons for that;

(c) whether the authorities have proposed to the operators to improve the design of train/bus components or provide additional installations in order to improve in-vehicle air quality and meet the air quality objectives under the practice notes; if they have, of the details; if not, the reasons for that;

(d) of the follow-up actions taken by the authorities against the operators for non-compliance with the practice notes; whether they will consider penalising those operators who have persistently failed to make improvement; if they will, of the details; if not, the reasons for that;

(e) of the results of the examination of the feasibility of the aforesaid recommendations conducted by the authorities; whether they have plans to implement such recommendations; if they have, of the details of such plans; if not, the reasons for that;

(f) given that according to the information of the Centre for Health Protection, maintaining good indoor ventilation is conducive to the prevention of infectious diseases including influenza, whether the authorities will, on the premise of safeguarding public health, consider replacing the practice notes with a statutory regulatory regime; if they will, of the legislative timetable; if not, the reasons for that; and

(g) as it has been reported that Kowloon Motor Bus Company (1933) Limited has, of its own accord, abolished the fresh-air extraction function of its buses without authorisation from the Transport Department, resulting in the carbon dioxide concentration inside the buses higher than the level prescribed in the practice notes,

(i) of the follow-up actions taken by the authorities in this regard;

(ii) of the number of complaints received by the authorities in the past five years concerning franchised bus companies violating the practice notes, as well as the details, progress and results of the investigations conducted by the authorities into these complaints;

(iii) whether at present there are laws prohibiting unauthorised conversion of the installations concerned by franchised bus companies, and imposing penalty on offenders; if there are, of the details; if not, the reasons for that; and

(iv) whether the authorities have assessed the impact of in-vehicle carbon dioxide concentration exceeding the prescribed level on the occupational safety of bus drivers and traffic safety, as well as the risk of passengers contracting infectious diseases; if they have, of the details; if not, the reasons for that?

Reply:

President,

(a) In 2003, the Environmental Protection Department (EPD) issued two sets of practice notes (Practice Notes) for managing indoor air quality (IAQ) in air-conditioned bus facilities and air-conditioned railway facilities respectively. In addition to specifying the benchmark levels for carbon dioxide concentration, the Practice Notes set out the responsibilities of the transport operator, relevant considerations for facility design, operational practice, maintenance and air monitoring

requirements, in order to maintain a good IAQ in the relevant transport facilities. The EPD has been monitoring the latest international developments on the management of IAQ in transport facilities, for timely review and revisions to the related Practice Notes. The existing Practice Notes are comprehensive and stringent in comparison with the practice of other countries, and they are useful for the management of the transport facilities to ensure good IAQ in their facilities.

(b), (c) & (e) Being responsible enterprises, the public bus and railway operators are responsible for providing good IAQ in their facilities (including passenger compartments) to passengers. In order to help the concerned operators achieve this objective, we issued the Practice Notes for them to regularly monitor IAQ of their facilities and take necessary improvement measures to maintain good IAQ. In view of the public concern on the air quality inside the bus and railway transport facilities, we have asked the bus and railway operators to follow the guidelines in the Practice Notes.

With regard to the recommendations of the Audit Commission in 2011 to improve IAQ, the EPD will work with bus and railway operators to study on how to publish their compliance level with the Practice Notes (including the compliance with the benchmark levels for carbon dioxide concentration) for public information. For other public transport facilities, the EPD has commenced the preparation of a practice note for managing IAQ in ferries. We are now conducting consultation with the relevant trade on the proposed practice note.

(d) The Practice Notes are aimed to help bus and railway operators strengthen air quality management inside relevant transport facilities on a self-regulatory basis. Should there be any deviation from complying the Practice Notes, the EPD will urge the bus and railway operator concerned to improve the situation as soon as possible.

(f) In 2006, the EPD commissioned a consultancy study to review the IAQ Management Programme including whether to impose legislative control on IAQ. The consultancy study was completed in 2011. It indicated that most of the countries or areas that are concerned on IAQ adopted a self-regulatory approach on IAQ management. The consultant also pointed out that, if the legislative control on IAQ is pursued, the problems in respect of apportionment of legal responsibility between premises owners and users could be difficult to resolve. Hence, the consultant suggested maintaining the current self-regulatory approach, and keeping in view of the international developments on this issue when considering the need of imposing legislative control on IAQ in future. Regarding the Practice Notes, we will monitor the latest international developments and conduct timely review and revision.

(g)(i) Recently, it has been reported that Kowloon Motor Bus

Company (1933) Limited (KMB) has, of its own accord, abolished the fresh-air extraction function of its buses without authorisation from the Transport Department (TD). We understand that KMB publicly explained and responded to this issue on March 11, 2013. It would be helpful for the passengers to understand and monitor IAQ of the public transport facilities, once the public bus and railway operators have regularly published IAQ information of their facilities in future.

(ii) In the past five years, the EPD received one complaint case from public concerning franchised bus company violating the Practice Note. The complainant cited the recent newspaper report about the abolishment of the bus fresh-air intake system by KMB, and expressed discontent. Regarding this case, the EPD had issued a letter to KMB urging them to follow the Practice Notes.

(iii) For any bus alterations which would affect the construction safety of buses, the bus company has to apply for prior approval from the TD. If the alteration would affect the air quality inside the bus compartment, the TD will refer the case to the EPD for assessment and consideration. During the regular bus inspections, the TD will check and ensure that the construction of buses complies with the requirements of the Road Traffic Ordinance.

(iv) When setting the benchmark levels for carbon dioxide concentration in the existing Practice Notes, the EPD has taken into account the risk of health effects to the passengers. The aim is to provide sufficient ventilation to the bus compartment to safeguard the health of passengers. Therefore, if the carbon dioxide concentration inside the bus compartment exceeds the benchmark level as caused by insufficient ventilation, the bus and railway operators should take effective measures to satisfy the requirements of the Practice Notes.

Maintaining good ventilation in public transport is conducive to the prevention of respiratory tract infection like influenza which may spread through droplets and hence safeguarding public health. The Centre for Health Protection has communicated with the TD to request all operators/service providers of public transport to follow the guidelines in the Practice Notes and ensure good ventilation with sufficient fresh air supply in air-conditioning system in public transport.

Ends/Wednesday, March 27, 2013  
Issued at HKT 15:12

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## 新聞檔案

2013-03-11

### 九巴車廂空氣質素符合香港及世衛嚴格標準

九巴車廂空氣質素符合香港及世衛嚴格標準 就今天 (3月11日) 有報章刊登關於巴士車廂空氣質素的報道，九龍巴士(一九三三)有限公司 (「九巴」) 澄清如下：

#### 九巴巴士空氣質素符合香港及世衛嚴格標準

九巴不啟動巴士抽風系統的決定與減低耗燃油量完全無關，有關決定早於2002年已實行，當時的考慮建基於空氣質素與乘客舒適而作出決定。自1999年起，九巴定期進行嚴謹的科學監測，監測結果顯示，當抽風功能啟動時，車廂內的污染物，特別是一氧化碳和氮氧化物的濃度，都高於關閉抽風功能時的情況。這個發現適用於行走高速公路及市區繁忙路段的巴士線，因此作出不啟動巴士抽風系統的決定。這決定是基於數據分析，這亦是巴士業界不同公司近十年的普遍做法。

另外，九巴依據環境保護署的指引《管理空調公共運輸設施內空氣質素專業守則 - 巴士》進行嚴謹的科學監測，每年抽驗一批巴士，進行一整日行車時車廂空氣質素的監測及鑑定。

根據九巴的抽查結果，超過八成巴士車廂內的二氧化碳含量優於環保署指引建議的第一級水平，即每小時平均值低於2,500ppm；其餘亦優於環保署指引建議的第二級水平，即每小時平均值低於3,500ppm。這表現亦同時符合世界衛生組織建議的標準，即八小時的二氧化碳平均值低於5,000ppm。可以確定巴士車廂內的空氣質素符合香港和世衛的嚴格標準。

九巴關注車廂內的空氣質素，長期投入大量資源人力物力進行研究和監測，提升空調系統，確保車廂內的空氣質素維持在良好水平。

#### 引進世界最先進空調科技：恆溫、除塵、殺菌

九巴持續25年與空調系統供應商一同研發適用於雙層巴士的空調系統，技術領先全球同業。

2002年起，九巴新購置的空調巴士均裝設了電子空氣淨化器，可以不斷循環過濾淨化車廂內的空氣，隔除微細灰塵，以及殺死空氣中的細菌和病毒。

2005年起，九巴及龍運率先將凌志轎車的高規格空調技術應用於空調巴士，引入最先進的空調系統，具備智能溫度控制，每4秒自動調節一次，能自動配合車內乘客量，利用系統的變頻式空調壓縮器自動調節空調匹數，令車廂保持在人體最舒適的水平。

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