CONTROLLING OFFICER'S REPLY

(Question Serial No. 3269)

Head: (60) Highways Department

Subhead (No. & title): (-) Not Specified

Programme: (2) District and Maintenance Works

Controlling Officer: Director of Highways (Jimmy P M CHAN)

Director of Bureau: Secretary for Transport and Housing

Question:

The Government has introduced the first air purification system for use in road tunnels to purify vehicle exhaust in the Central-Wan Chai Bypass (CWB) project so as to help reduce roadside air pollutants. Will the Government inform this Committee of the following -

(a) What has been the performance of the air purification system since the commissioning of the CWB? Please provide a comparison of the concentration of each kind of pollutants (sulphur dioxide (SO2), nitrogen oxides (NOx), respirable suspended particulates (RSP or PM10), fine suspended particulates (FSP or PM2.5), volatile organic compounds (VOC), carbon monoxide (CO) and ozone (O3)) emitted in the first two months with the Air Quality Objectives, and the average operation and maintenance costs of the system in the first two months;

(b) The air purification system will also be introduced to the Central Kowloon Route (CKR) under construction. What are the operation cost, maintenance cost and expected service life of the system? What is the expected reduction in the concentration of pollutant emissions? Please set out in detail.

Asked by: Hon KWOK Wing-hang, Dennis (LegCo internal reference no.: 22)

Reply:

(a) The objective of installing the air purification system in the CWB project is to improve the air quality of exhaust emitted from the CWB Tunnel through the ventilation buildings. The air purification system is designed to remove at least 80% of respirable suspended particulates (RSP) and nitrogen dioxide (NO2) in the tunnel exhaust.

Before the relevant air purification system is installed in the CWB Tunnel, the associated facilities have already passed the factory acceptance test. The test result showed that the system could effectively remove 80% of the RSP and NO2 under testing environment. Since the commissioning of the CWB, we have been fine-tuning the system according to real-time traffic conditions. Upon completion of the fine-tuning process, performance tests will be carried out to confirm the

effectiveness of the system in purifying tunnel exhaust. Test reports will be uploaded to the websites of the Highways Department and the Environmental Protection Department. It is estimated that the annual operation and maintenance cost of the air purification system is approximately $13 million.

(b) Air purification system will also be introduced into the CKR project which is under construction. It is estimated that the effect of the system as well as the operation and maintenance cost would be similar to those of the CWB's air purification system.

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