

CONTROLLING OFFICER'S REPLY

THB(T)254

(Question Serial No. 6156)

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:

Air purification system is used in road tunnels to purify vehicle exhaust in the Central – Wan Chai Bypass (CWB) so as to help reduce roadside air pollutants. Will the Government inform this Committee of the following -

- (a) Please provide a comparison of the concentration of each kind of pollutants (sulphur dioxide (SO₂), nitrogen oxides (NO_x), respirable suspended particulates (RSP or PM₁₀), fine suspended particulates (FSP or PM_{2.5}), volatile organic compounds (VOC), carbon monoxide (CO) and ozone (O₃)) emitted in each month since the commissioning of CWB with the Air Quality Objectives;
- (b) What is the average operation cost of the system? Has any maintenance work been carried out to the system since the commissioning of CWB? If yes, what are the details? What are the cost breakdown and amount involved? Please provide the information in table form.

Asked by: Hon KWOK Wing-hang, Dennis (LegCo internal reference no.: 84)

Reply:

- (a) The Air Purification System (APS) of CWB is designed to purify respirable suspended particulates (RSP) and nitrogen dioxide (NO₂) of the exhausts emitted from the tunnel ventilation buildings. The prevailing Air Quality Objectives of 24-hour RSP limit and 1-hour NO₂ limit are 100 µg/m³ and 200 µg/m³ respectively. For the period between June and December 2019, the recorded monthly maximum concentration of the emitted RSP in 24 hours and the emitted NO₂ in 1 hour range from 26.2 to 91.3 µg/m³ and from 4.1 to 110.8 µg/m³ respectively after the exhausts have been purified by APS.
- (b) Since the commissioning of APS, routine operation and maintenance activities including general cleansing, calibration of sensors, wash-down of electrostatic precipitators and regular inspection of the APS components have been carried out to keep APS in optimal and efficient operating condition. Maintenance works for APS are currently carried out by the Contractor without extra cost as it is within the one-year “warranty period”. After the expiry of the warranty in November 2020, the estimated annual operation and maintenance cost of APS is around \$13 million.

- End -