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17 March 2003

Miss Becky Yu
Clerk to the LegCo Panel on
Environmental Affairs
LegCo Secretariat
3/F, Citibank Plaza
Garden Road
Hong Kong

Dear Miss Yu,

Pearl River Delta Air Quality

At the LegCo Environmental Affairs Panel meeting on 22 July 2002, Members requested the Administration to provide the following additional information arising from the discussion on the measures to improve Pearl River Delta (PRD) air quality -

(a) projected growth rates in regional economy, population, energy consumption and traffic by 2010 for the PRD Region, using 2000 as the base year;

(b) information on the latest development of the Blue Sky Project undertaken by the Guangdong Provincial Government;

(c) estimated emission trends of volatile organic compounds (VOC), respirable suspended particulates (RSP), nitrogen oxides (NOx) and sulphur dioxide (SO_2) in Hong Kong;

(d) emission data for individual power generating plants in Hong Kong;

(e) information on how the use of electricity and the emission levels in Pearl River Delta Economic Zone (PRDEZ) could be effectively monitored; and

(f) information on whether power generation facilities in PRDEZ were Government or privately owned.

Our responses following the order of the requests are set out below-

(a) Based on the data of the report of the Joint Study on PRD Air Quality (the Joint Study), the gross domestic product, population, electricity consumption and road traffic within the PRD Region will increase by 108%, 14%, 76% and 113% respectively in 2010, using 2000 as the base year (the complete report of the Joint Study was submitted to the LegCo Secretariat in April 2002).

(b) According to the information provided by the Guangdong Environmental Protection Bureau (GDEPB), as at the end of 2001, among the 100 major cases of industrial pollution to be mitigated under the Blue Sky Project, there were 66 flue gas/dust cases and 33 SO_2 control cases. Regarding the 66 flue gas/dust cases, 57 were completed while another 5 resulted in the closure, relocation or conversion of the concerned industrial facilities. As for the 33 SO_2 control cases, 7 cases were completed, 3 underway, 2 modified, 1 resulted in the closure of the business concerned, 1 led to the substitution of coal water mixture for heavy oil, 11 entailed the use of low sulphur raw materials or the mixing in of a desulphurization additive for burning, and the remaining 8 have not taken any desulphurization measures yet. So far, the major desulphurization projects that have been completed include: Seawater Desulphurization Project of the Shenzhen West Power Plant (annual reduction of SO_2 emissions by 7,500 tonnes), Limestone-gypsum Flue Gas Desulphurization Project of Yuelian Power Plant (annual reduction of SO_2 emissions by 13,800 tonnes), "Flue Gas Desulphurization by Calcium Injection" Project of Guangzhou Papermaking Company Limited (annual reduction of SO_2 emissions by 272.8 tonnes), Sulphur Recovery Project of Maoming Petrochemical Company (annual reduction of sulphur emissions

by 9,366 tonnes), and Sulphur Control Technology Reformation Project of Shaoguan Smeltery (annual reduction of SO_2 emissions by 400 tonnes). Of these, the Seawater Desulphurization Project of the Shenzhen West Power Plant was the first seawater desulphurization demonstration project in the country as confirmed by the State Environmental Protection Administration. At present, the desulphurization projects that are being implemented include Flue Gas Desulphurization Project of Shajiao Power Plant "A"(Unit 5) in Dongguan, Flue Gas Control Project of the Guangzhou Hengyun Power Plant and the 50-tonne Furnace Flue Gas Control Project of Huafeng Papermaking Company Limited in Foshan. As at the end of 2001, the major emission control cases of industrial pollution under the Blue Sky Project of Guangdong Province have brought about total annual emission reductions of 61,473 tonnes of flue dust, 15,778 tonnes of dust and 47,411 tonnes of SO_2.

(c) Based on the findings of the Joint Study, the projected emission trends of VOC, RSP, NOx and SO_2 in Hong Kong without additional air pollution control measures are set out in Annex A.

(d) Based on the estimation of the Environmental Protection Department, the emissions of the power generating plants in Hong Kong in 2000 are given in Annex B.

(e) According to the information provided by GDEPB, the SO_2 emission levels of thermal power generating plants are mainly calculated with reference to the sulphur content and the amount of the fuels used as well as the power generation and the desulphurization technologies adopted by the plants. On-site monitoring and examination will also be conducted by the monitoring (or regulatory) authorities biannually. As for electricity consumption, thermal power, hydropower, nuclear energy, wind energy and pumped storage power account for 76%, 11.7%, 10.5%, 0.1% and 1.7% of the fuel structure of Guangdong power plants respectively in 2001. According to the 10th Five-Year Plan for energy development in Guangdong Province, it is estimated that by 2005 the amount of power generated by clean fuel like hydropower, nuclear energy, gas-fired power and desulphurized coal-fired power stations will take up to 53.8% of the total installed capacity, while

that generated by thermal power plants with capacity less than 25MW will, compared to 1999, drop from 23.7% to 14%; and that by coal-fired power and petroleum energy plants will drop to 58.8%.

(f) According to the information provided by GDEPB, the power plants in Guangdong Province can be classified into province-controlled plants, local-run plants, private plants and plants owned by some large enterprises for their exclusive use. Among them, the state-owned province-controlled plants have been incorporated into Yuedian Company (a state-owned enterprise). Detailed figures on the ownership are not available as the current statistics do not cover the shareholding of the power plants.

Yours sincerely,

(C W Tse)
for Secretary for the Environment,
Transport and Works

c.c.
DEP (Attn.: Mr W C Mok) 2827 8040

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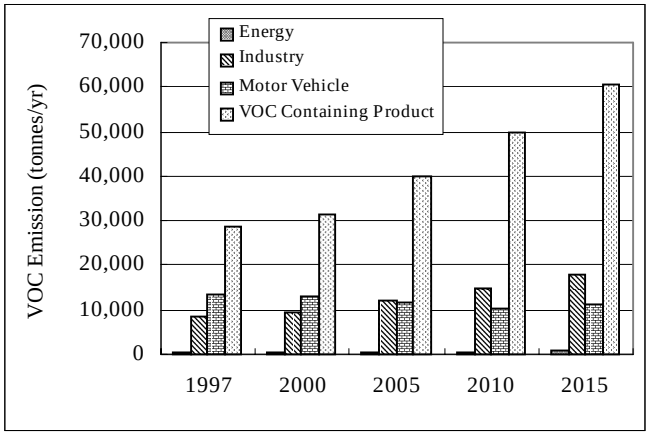
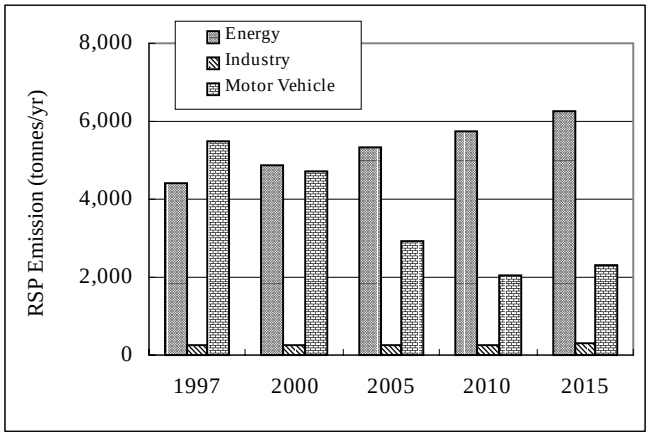
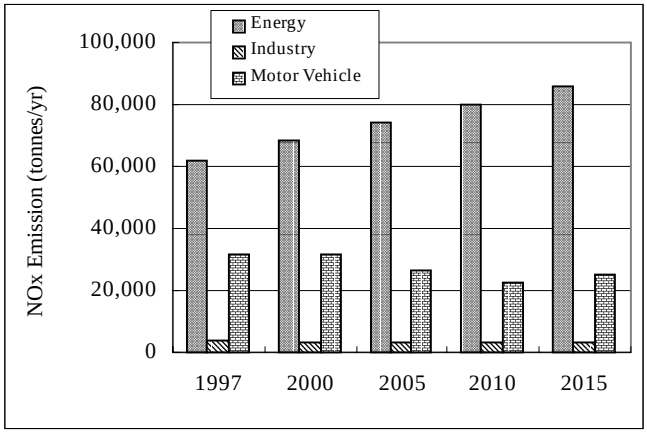
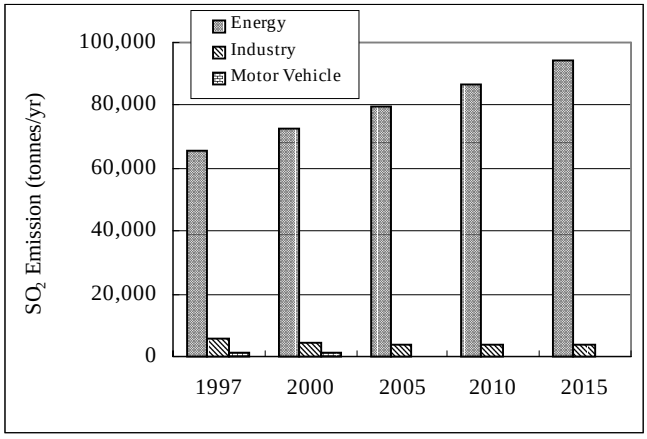
Annex A

VOC, RSP, NOx and SO_2 Emission Trend in Hong Kong Without Additional Air Pollution Control Measures









Annex B

Emission Quantity of Power Plants in Hong Kong in 2000

Pollutants	Emission Quantity (tonnes)*		
	Lamma Power Station	Castle Peak Power Station	Black Point Power Station
Sulphur Dioxide	27,029	29,446	316
Nitrogen Oxides	15,567	26,826	1,234
Particulates	1,067	1,986	251

* Estimated by the Environmental Protection Department