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Panel on Environmental Affairs

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Updated background brief on control of volatile organic compounds

Introduction

Volatile organic compounds (VOC), emitted as gases, play a significant role in the formation of ozone¹ and respirable suspended particulates (RSPs)² in the atmosphere which are harmful to health. VOC can also exacerbate smog phenomenon and impair visibility of the region.

2. The Joint Study on Pearl River Delta Region Air Quality conducted by the Hong Kong Special Administrative Region (HKSAR) Government and the Guangdong Provincial Government has identified paints, printing industry, VOC-containing consumer products and motor vehicles are the four major emission sources. To improve the air quality of the Pearl River Delta Region, the HKSAR Government and the Guangdong Provincial Government reached a consensus in April 2002 to reduce, among other things, the regional emission of VOCs by 55% by 2010, using the emission level at 1997 as a base. To this end, the Administration has put in place a series of programmes to reduce VOC emissions.

Control of VOC emissions at petrol filling stations

3. To control the dispersal of VOC vapour into the atmosphere during the refueling of a vehicle at a petrol filling station, the Air Pollution Control (Petrol Filling Stations) (Vapour Recovery) Regulation was passed in 1999 to require the control of VOC emissions during the unloading of petrol from petrol tankers into storage tanks at petrol filling stations. Owners of petrol filling stations have since installed a system at their petrol filling stations to recover VOC vapour during the unloading process.

¹ Ground level ozone is a highly reactive gas, and when in high concentration can irritate the eyes and bring upper and lower respiratory symptoms to healthy people

² Respirable suspended particulates can penetrate deeply into the lung and interfere with functioning of the respiratory system

4. As a step further to reduce VOC emission, the Administration had introduced the Air Pollution Control (Petrol Filling Stations) (Vapour Recovery) (Amendment) Regulation 2004 on 5 January 2005 to require petrol filling stations to reduce emission of VOC vapour during refueling of petrol vehicles. Under the proposal, all newly built petrol filling stations are required to be equipped with a system that recovers petrol vapour during petrol vehicle refueling. Owners of existing petrol filling stations will have three years to retrofit their stations with the systems. The proposal was discussed by the Panel on Environmental Affairs at its meeting on 22 July 2003. While acknowledging that the trade generally supported the proposal and welcomed the provision of a three-year installation period, members held the view that measures should be introduced to minimize the inconvenience associated with the suspension of service during the installation period. They also requested the Administration to reconsider the propriety of imposing jail sentence for non-compliance before introducing the relevant regulation into the Legislature.

5. When the Air Pollution Control (Petrol Filling Stations) (Vapour Recovery) (Amendment) Regulation 2004 was considered at the House Committee meeting on 7 January 2005, the Administration was requested to provide further information on the impact of the proposed retrofitting on the operation of small petrol filling stations and the outcome of consultation of the owners concerned. According to the Administration, it had consulted all owners of petrol filling stations, large and small, and none of them had problems with the proposal. Moreover, a small petrol filling station would only need to suspend its operation for less than one working day in order to complete the replacement work, testing and issuance of the certificate. The Regulation will come into operation on 31 March 2005.

Control of VOC emissions from consumer products

6. In addition to the control measures for reducing VOC emissions from petrol filling stations, the Administration has also put forward a plan to adopt a two-stage approach to reduce VOC emissions from paints, printing inks and selected consumer products in Hong Kong.

Stage 1 – Mandatory registration and labelling of selected VOC-containing consumer items

7. Under Stage 1 of the proposal, a mandatory registration and labelling scheme will be introduced to require importers or manufacturers of all paints, printing inks and selected consumer products to register with the Environmental Protection Department (EPD) the VOC contents of their products for sale in Hong Kong. They will also be required to ensure that a bilingual label of the VOC contents is either printed upon or securely affixed onto individual containers and/or packaging of the concerned products. Non-compliance with the proposed registration and labelling requirements will be subject to penalties. A list of the consumer products to be covered under the proposed scheme and the related penalties are in **Appendices I and II** respectively.

8. When the Panel on Environmental Affairs (EA Panel) was briefed on the proposed registration and labelling scheme on 28 June 2004, some members expressed concern that the proposal would duly affect those retailers who had to rely on exporters to provide the requisite information on VOC contents. Besides, the proposed scheme would limit consumers' choice since the registration and labelling requirements would likely affect the import of VOC-containing products manufactured in countries which did not have such requirements. They therefore urged the Administration to look into the problem from the trades' perspective to facilitate compliance with the requirements.

9. The Administration's explanation was that as most of the VOC-containing products were chemical substances, the importers and manufacturers should already have detailed information about their composition and should not have problem in complying with the labelling requirement. Notwithstanding, it would take into account the trades' views before finalizing the proposed scheme to strike a balance between the interests of the trades and the environment.

10. The EA Panel noted that the laboratory fee for testing of the VOC content in meeting the labelling requirement would be in the region of \$1,000 to \$3,000 per product while the registration fee would likely be in the range of a few hundred dollars per product. As importers and manufacturers might have to shoulder the additional cost in complying with the proposed registration and labelling requirements, members expressed concern that such cost would invariably be transferred to consumers.

11. In September 2004, the Administration embarked a two-month consultation exercise to gauge views of stakeholders, including the affected trades, on the proposed Stage 1 programme. At the Council meeting on 24 November 2004, Hon Vincent FANG Kang asked an oral question seeking explanation on the rationale for introducing the proposed scheme and whether the Administration would consider providing assistance to affected trades.

12. In view of the trades' concerns about the impact of the proposed scheme on their operation, the Panel on Commerce and Industry (CI Panel) held a meeting on 14 December 2004 to receive views from interested parties, including the trades, an environmental concern group and the Consumer Council.

13. At the meeting, the CI Panel noted that deputations had dissenting views on the subject. While the trades were generally supportive of the need to improve air quality and protect the environment, they raised the following concerns about the proposed control scheme on VOC emissions -

- (a) the two-month consultation had not been effectively conducted as many affected trades were unaware of the proposed scheme nor familiar with the concept of VOC. Besides, the proposed six-month transitional period was far too short for importers and retailers to clear their existing stock before the new scheme took effect. A regulatory

impact assessment (RIA) of the proposed scheme was therefore recommended to fully assess its impact on various trades and industries;

- (b) the Administration should explain how it came to a conclusion that consumer products accounted for 24% of the total VOC emissions. Consideration should also be given to targeting at those products with high VOC content while exempting products of low VOC content such as cosmetics and personal care products;
- (c) the Administration should provide clear guidelines on the safety level and testing standards of VOC since the VOC levels in different consumer products varied;
- (d) testing would be time consuming since there were only two laboratories in Hong Kong which were qualified to test VOC levels in consumer products. As a result, importers or retailers of cosmetic products might suffer loss because of the short cycle of these products;
- (e) local importers and retailers would have to bear the cost of labelling since overseas manufacturers of consumer products would unlikely change packaging according to the needs of Hong Kong given that it was only a very small market. Hence, the cost would ultimately be transferred to customers;
- (f) the effectiveness of the labelling requirement in improving air quality was highly questionable. Without adequate consumer education, a product label stating the VOC content level might not be meaningful;
- (g) importers or retailers might avoid importing certain consumer products which safeguarded human health, such as insect repellents against Dengue fever, due to cost implication arising from the proposed scheme, , thereby limiting consumers' choice;
- (h) the proposed scheme was at variance with the Government's pledge to improve business environment and employment given that the high operating costs arising from testing and labelling of VOC-containing products might jeopardize the viability of many small and medium enterprises engaged in retail business.

The environmental concern group was however in support of the proposed scheme to bring control on the highly polluting VOC emissions. The Consumer Council on the other hand stressed the need to enhance consumer education and to prioritize the regulatory measures with regard to the respective share of VOC emissions so that products with high VOC content would be controlled as a first step.

14. Members of the CI Panel were in general wary about the adverse impact of the proposed scheme on business environment and considered it necessary that a RIA should be conducted. They were worried that the onerous requirement of the proposed scheme, if implemented, might deter overseas manufacturers from exporting their products to Hong Kong. Given that Hong Kong was primarily an importer of consumer products, it had to rely on exporters to provide the requisite information on VOC content. Failure of exporters to provide such information might result in certain products not being able to be sold in Hong Kong, thereby limiting consumers' choice. They stressed that the Administration should not tackle the problem from the single perspective of environmental protection and overlook the implications of the proposed scheme on other sectors of the society. A better alternative was to enhance proper consumer education which was better than product labelling, which in their view was of little use or interest to the consumers. They urged the Administration to step up communication with the affected trades and to formulate genuinely effective VOC-reducing measures that could benefit the public and cause least disruption to the business sector, such as targeting regulatory measures at products of high VOC emissions.

15. In its reply to the CI Panel in January 2005, the Administration reported that it had received many concerns on the proposed control scheme through the consultation process. These included the justifications for the scheme to cover many consumer products and cosmetics, the difficulties for the trades to comply with the testing and registration requirements, the cost and implications to the affected trades as well as the need for a RIA of the proposal. In this connection, the Administration was prepared to work further with the trades in partnership through meetings and working groups on practicable alternatives that would avoid or minimize any adverse impacts on them. It would also revisit the need for and the scope of a RIA after that process.

The next stage

16. Subject to the effectiveness of the Stage 1 programme, the Administration will consider how to proceed with Stage 2 where measures to control the VOC contents of specified types of products or to discourage the use of certain products with higher VOC contents may be introduced. It will separately consult the relevant stakeholders and the public before any proposed control measures are introduced.

Appendix I

List of VOC containing consumer products to be regulated under the proposed registration and labelling scheme

General Consumables

1. Adhesive and adhesive remover
2. Aerosol cooking spray
3. Air freshener
4. Anti-static product
5. Cleaner – for bathroom and tile, general purpose, glass, carpet and upholstery, electrical and electronic components or equipment, oven, hand-cleaning, soap, wood and others.
6. Dusting aid
7. Fabric protectant, refresher
8. Floor polish, wax, wax stripper
9. Footwear and leather care product
10. Furniture maintenance product
11. General purpose degreaser
12. Graffiti remover/correction fluid
13. Insect repellent
14. Insecticide and herbicide
15. Laundry pre-wash/starch product
16. Metal polish, cleanser
17. Multi-purpose lubricant
18. Paint remover/stripper
19. Penetrant
20. Rubber and vinyl protectant
21. Sealant and caulking compound
22. Spot remover
23. Toilet or urinal care product

Personal Care Products

24. Antiperspirant/deodorant
25. Hair shine/spray
26. Hair styling product and mousse
27. Nail polish/polish remover
28. Personal fragrance product
29. Shaving cream, gel

Car Care Products

30. Automotive brake cleaner
31. Automotive rubbing, polishing compound
32. Automotive wax, polish, sealant, glaze
33. Automotive windshield washer fluid
34. Bug and tar remover
35. Carburettor or fuel-injection air intake cleaner
36. Engine degreaser
37. Tyre sealant and inflator
38. Undercoating aerosol

Aerosol Coatings—General

39. Top coat
40. Other coating

Appendix II

Offences and proposed Penalty

	Offence	Proposed Penalty
1.	Submit false information at registration	First offence : a fine of \$50,000 and to imprisonment for three months Repeated offence : a fine of \$100,000 and to imprisonment for six months
2.	Fail to register products	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months
3.	Sell, supply or offer for sale any products under the regulatory scheme for local consumption without adhering to the labelling requirements	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months
4.	Fail to provide annual sales records	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months
5.	Fail to maintain sales data for three years	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months