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## **ACE Paper 27/2005**

*For discussion*

### **Proposed Control on Volatile Organic Compounds**

#### **Purpose**

This paper seeks views of the Council on the proposed control of volatile organic compounds (VOCs).

#### **Background**

2. VOCs are a major air pollutant causing the formation of smog. To improve the air quality of the Pearl River Delta Region, the Hong Kong Special Administrative Region Government (the Government) and Guangdong Provincial Government reached a consensus in April 2002 to reduce the regional emissions of VOCs, among other air pollutants.

3. On 28 June 2004, the Administration consulted the Environmental Affairs Panel (the “Panel”) of the Legislative Council (LegCo) on introducing a mandatory two-stage scheme to control the emissions of VOCs. Under the first stage, paints, printing inks and selected consumer products manufactured or imported for sale in Hong Kong would need to be registered with the Environmental Protection Department (EPD), tested on VOC contents and bear labels indicating the level of VOC content with a warning message that VOCs cause air pollution, so that consumers would be able to choose products containing lower VOC contents. After implementing the first stage scheme, the Government would then review the effectiveness and consider the need to implement further measures to control the VOC contents of specific products at the second stage of the scheme.

4. Members of the Panel supported the general intention to control VOC emissions and to consult the public and the affected trades on their views on the scheme proposed.

#### **Consultation**

5. In late September 2004, the Administration launched a consultation exercise on the scheme as set out in paragraph 3. A list of organisations consulted is attached in **Annex A**. During the ensuing public consultation period, we met

hundreds of representatives from various trades. While many indicated general support to improve air quality, a number of concerns about the proposal were raised. Major practical issues raised are -

- (a) A labelling approach may not be effective in reducing VOCs since consumer behaviour is affected by many other factors;
- (b) Hong Kong is relatively small as a market. There may be practical problems for overseas manufacturers to produce labels specifically for Hong Kong or for importers to obtain the necessary information for producing the labels;
- (c) The registration procedure and testing requirement can impose significant efforts and costs on suppliers;
- (d) Some small traders may not be able to comply with the regulation and would be driven out of business;
- (e) It is not cost-effective to target very small emission sources, e.g. consumer goods with only small volume of sales; and
- (f) Sufficient transition period for the affected trades will be required.

6. Recognising these concerns, we held a number of in-depth discussions with the trades with a view to finding measures that could effectively reduce the emission of VOCs and yet minimise the impacts on the affected parties. To work with the trades in partnership, we set up a Working Group on Regulatory Control of VOCs (the “Working Group”) in May 2005, with participation of representatives of the affected trades. The Working Group comprises four Subgroups –

- (a) the Personal Care Subgroup with representatives of the cosmetics industry, focussing on consumer products for personal care purpose;
- (b) the General Consumables Subgroup, participated by both local and international manufacturers and retailers of other affected consumer products;
- (c) the Paints Subgroup with major stakeholders in the production, sales and applications of architectural paints; and
- (d) the Printing Subgroup, consisting of both printers, ink dealers and the end users of print products.

7. The Working Group and the constituent Subgroups have proven to be very useful forums for EPD and the trades to work together to find practical means to reduce VOC emissions from various products and to fine tune the VOC control programme.

## The Proposed Control Programme

8. After thorough discussions at the Working Group and Subgroups, we propose a revised control programme consisting of the following major elements –

- (a) The regulatory requirements will be sector-specific so that they will be the most suitable and effective for the sector concerned;
- (b) The scope of control for consumer products can be narrowed down to the six largest emitting sources (i.e. hairsprays, insecticides, insect repellents, air fresheners, floor wax strippers and multi-purpose lubricants). They already account for about 80% of VOC emissions from consumer products;
- (c) The programme can be speeded up and limits on VOC contents can be imposed directly without the first-stage labelling programme. (In the previous proposal, VOC limits can be imposed soonest in 2009); and
- (d) Mandatory registration and testing of VOC products by certified laboratories are no longer required. Products may be imported or manufactured as long as they comply with the relevant VOC limits. The enforcement efforts will be simpler.

More details are elaborated in the following paragraphs.

### *Consumer Products*

9. VOC limits will be introduced in successive stages for hairsprays, insecticides, insect repellents, air fresheners, floor wax strippers and multi-purpose lubricants, as set out in **Annex B**. When fully implemented, these limits will be equivalent to the prevailing standards in force in California (mandated by the Californian Air Resources Board), which are the most stringent in the world so far. Suppliers of some products may need to reformulate or source alternative products, including other environmentally-friendlier products. The timetable should allow sufficient time for the market to adapt to the change without excessive disturbance.

### *Paints*

10. VOC limits on paints based on the two most stringent standards currently in force in California (i.e. those by the South Coast and Bay Area Air Management Districts) will be introduced progressively as set out in **Annex C**. In order to comply with them, suppliers of paints will need to reformulate their paint products, or replace some of the high-VOC solvent-based paints by water-based alternatives. Transition time will be allowed for making these changes as well as to allow consumers to adapt to these substitutes. Since paints are major sources of VOCs, paint suppliers have

also agreed, prior to the implementation of the VOC limits, to temporarily affix a warning label on those paints with VOCs in excess of the future limits.

### *Printing*

11. VOC limits equivalent to the Californian South Coast standards will be introduced according to the implementation timetable as detailed in **Annex D**. Some of the existing ink products may have to be replaced with alternative environmental inks. In considering the implementation timetable, the Government has given careful consideration to some special printing processes in need of more flexible treatment. For instance, for inks in screen printing (for compact discs, handbags, decals, signboards, etc.), many operators are very small. We have thus allowed a longer period of transition than others for the operators to comply with the regulation. For heatset printing, it is more effective to control VOC emissions by process control devices. Hence the proposal is to require heatset printing machines to install effective emission control device to reduce the VOC emission during printing process.

### *Sales reporting*

12. Upon the enforcement of the VOC limits, we will require manufacturers and importers to submit to EPD information regarding the annual amount of products sold at the local market. Such information will allow the Government to estimate the volume of reduction in VOCs after the implementation of the regulation, and assess its effectiveness.

### *Application and Enforcement*

13. The new regulation to be proposed will cover regulated products locally manufactured or imported either by sole agents or parallel importers, for sale at the local market or proprietary use (i.e. the importer or manufacturer is also the end consumer). We do not propose to impose liability on retailers except that they should provide accurate information regarding the origin of products sold when required. The regulation will not apply to products for export, re-export, transshipment or in transit, or those products manufactured or imported prior to the enforcement of the respective VOC limits (manufacturers or importers however have the obligations to keep records of the products imported or manufactured in case of being required for assisting investigations of suspected offences).

14. To enforce the proposed new regulation, the EPD will conduct surprise surveillance and spot checks at the local market, with the assistance of the Customs and Excise Department at import points. In the event of suspected contravention, importers or manufacturers may be asked to provide formulation data to assist investigation. The relevant testing methods for different products will be prescribed in the law.

### *Review Mechanism*

15. In order to review the effectiveness of these measures and resolve any difficulties arising during their implementation, it is important for EPD to maintain a partnership and dialogue with the trades. The Working Group mechanism will thus continue. Through the Working Group and its constituent Subgroups, we will review the progress of the regulation and, if necessary, the need for further control measures and standards.

### **Conclusion**

16. The proposed programme is more direct and effective than the previously proposed two-stage scheme and yet will minimise the impacts to the affected trades. We plan to introduce the regulation in 2006 and the first batch of VOC limits will come into force on 1 January 2007. The majority of the VOC limits will come into force by 1 January 2009. We estimate that the new regulation could help reduce approximately 8 000 tonnes of VOCs. To further reduce VOC emissions, we will also explore measures to control other VOC sources such as industrial solvents.

17. Council Members are invited to comment on the revised proposal.

**Environmental Protection Department**  
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