

Control of Indoor Air Pollution

PURPOSE

_____This paper presents the findings and recommendations of the consultancy study commissioned by the Environmental Protection Department (EPD) on the indoor air pollution in offices and public places in Hong Kong, and proposes a framework and way forward for the control of indoor air pollution.

BACKGROUND

_____In the Second Review of the "1989 White Paper on Pollution in Hong Kong" in November 1993, the Government recognised the existence of potential health risk and problems associated with indoor air pollution. To address this issue, the EPD commissioned a consultancy study on "Indoor Air Pollution in Offices and Public Places" (the Study) in October 1995. A Steering Group, chaired by EPD, was formed to manage the consultancy study. Other members included representatives from the Planning, Environment and Lands Bureau, Architectural Services Department, Electrical and Mechanical Services Department, Labour Department, and Department of Health.

_____The Study was to characterise and quantify the indoor air pollution in office premises and selected public places in Hong Kong, assess the causes of the pollution problems, and recommend suitable control strategies. It comprised (a) questionnaire survey; (b) field sampling and analysis; (c) statistical analysis of the results; and (d) study on the practice of other countries. The Study was completed in September 1997. The Executive Summary of the Study is attached in Annex I.

FINDINGS OF THE STUDY AND PROPOSED CONTROL OPTIONS

_____The Study has found that indoor air pollution in Hong Kong is very similar to that of other developed countries. About one-third of the occupants surveyed were dissatisfied with the indoor air quality (IAQ) of their respective buildings. Their perception of IAQ was found to have significant correlation with the actual measurement results including temperature, humidity, air change per hour, and levels of some air pollutants. Occasional high levels of pollutants such as carbon dioxide which exceeded internationally accepted guidelines were measured in some offices and public places. They were mainly caused by high occupancy density and inadequate ventilation.

_____The Study recognised that the approach adopted so far to control IAQ in Hong Kong is through implementing a series of ordinances and regulations which spread over a number of government departments. These statutory provisions can indirectly exert some controls on IAQ such as establishing basic ventilation requirements, imposing import and/or sale ban on certain products, and specifying designated "no smoking area" etc. A summary of responsibilities of government departments relevant

to IAQ is given in Table 3 of Annex I.

____The Occupational Safety and Health Ordinance enforced by Labour Department covers all workplaces including office premises, however it only covers employees. Occupational Exposure Limits are adopted by Labour Department to protect the health of employees. Whilst certain public places like cinemas and restaurants are under licensing control of existing legislation, there is no specific legislation on the control of IAQ in such other public places as shopping mall, karaoke, and gymnasium etc. This means that there is no enforcement body to take up complaint cases of such nature in Hong Kong at present.

____The Study recommended that a more comprehensive management scheme with different implementation options for further consideration, and an inter-departmental IAQ Management Group should be set up to co-ordinate the development on the control of IAQ. In the interim, a draft Code of Practice (CoP), has been prepared by the consultant. This gives a set of IAQ objectives and good practices and should be adopted by practising professionals and building management to ensure acceptable IAQ. The Study also recommended that the provisions of certain existing regulations should be strengthened to address the issue of indoor air pollution by making reference to the CoP.

____The Study recommended that IAQ at residential premises should be controlled on a voluntary basis and the Government should initiate public education to bring the issue of IAQ to the attention of the general public.

____For office and public places, the Study has proposed 4 options for institutionalising the control of IAQ within the Administration :-

- (a) Option A : Self-regulation;
- (b) Option B : Making use of existing legislation and systems;
- (c) Option C : Enhancing existing legislation through amendments; and
- (d) Option D : Developing a set of new legislation on indoor air pollution.

____Other than Option D, the other options can be adopted in various combinations for implementation. The Study proposed that a more comprehensive mechanism to strengthen the control over IAQ (i.e. Option D) may be warranted subject to the review of the situation by the Management Group after a period of 3 years.

____The Study also recommended that institutions with susceptible groups including schools, hospitals and homes for the young, the aged and the sick should be further studied.

PROPOSED PRINCIPLES AND FRAMEWORK FOR THE CONTROL OF IAQ

Control Strategies

____Based on the findings and the recommendations of the Study, and taking into consideration the views of the concerned departments and bureaux, we propose that an IAQ programme should be initiated in a progressive manner starting with those buildings and premises where existing legislation can be used to deal with IAQ. This progressive control will represent a mix of Options A to C as recommended by the

Study. We aim to develop indoor air quality standards which should be at least comparable to the international standards adopted by appropriate authorities within the next year. We will monitor the progress and conduct additional surveys as may be required. The Administration will review the position and consider the need to broaden the scope or introduce a set of dedicated legislation on the control of IAQ three years after implementation of the IAQ programme.

Public Education

_____We will start public education to bring the issue of IAQ to the attention of public. Building owners might consider employing suitable personnel to check and certify that the IAQ of their buildings or premises complies with the standards set out. The Administration will monitor the progress and effect of public education so as to judge whether further action may be needed later.

Code of Practice (CoP)

_____It is also necessary to provide a CoP to define and specify the procedures, measures and methodologies that should be followed to evaluate IAQ as well as to achieve the desired IAQ standards. This CoP will act as a guide for the public and as the reference document for public and private sector professionals. The Study has already prepared a draft CoP for this purpose. A copy is at Annex II. We are studying the draft CoP and will use it as the basis for public consultation before we finalise it.

WAY FORWARD

_____The Government has set up an inter-department IAQ Management Group, chaired by the Planning, Environment and Lands Bureau and comprising relevant departments and bureaux, to co-ordinate the development on the control of IAQ. The Government will start consulting the public, building management, relevant trade organisations and professional bodies on strengthening the existing programme or statutory provisions and on the draft CoP to address the issue of indoor air pollution. We aim at formulating a comprehensive indoor air quality management programme for improving indoor air quality within 1999. We will brief ACE Members on the programme once we have finalized it.

ADVICE SOUGHT

_____Members are invited to note the findings and recommendations of the Study and our proposed way forward for the overall control of IAQ in Hong Kong as outlined above.

**Planning, Environment and Lands Bureau
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