

Leisure and Cultural Services Department

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11 June 2013

Ms Alice LEUNG Clerk to Legislative Council Panel on Home Affairs Legislative Council Building 1 Legislative Council Road Central Hong Kong

Dear Ms Leung,

Thank you for your letter dated 31 May 2013 which conveyed the concern of Hon WONG Kwok-hing about the air quality in public libraries to the Leisure and Cultural Services Department (LCSD). Our response to the issue is set out as follows.

To strengthen monitoring of the indoor air quality (IAQ) of public libraries, the LCSD requested the Electrical and Mechanical Services Department (EMSD) in April last year to arrange by phases for 60 static libraries installed with mechanical ventilation and air conditioning systems to participate in the Indoor Air Quality Certification Scheme for Offices and Public Places (Certification Scheme) of the Environmental Protection Department (EPD) in order to assess the IAO level of public libraries. Under the Certification Scheme, a competent IAO examiner regularly takes air samples and measures a total of 12 IAQ parameters in different locations of public libraries at various time-slots, and then conducts an assessment according to the IAQ objectives of Excellent Class and Good Class. The premises in compliance with the respective IAQ objectives will be issued an IAQ Certificate of the corresponding class. All these premises are required to undergo annual recertification for IAQ Certificate renewal.

At present, among the above 60 public libraries which have participated in the Certification Scheme, 26 libraries have been awarded the Excellent Class or Good Class IAQ Certificates; whereas 18 libraries are applying for an IAQ Certificate with the EPD after going through the certification with an assessment of compliance with the Good Class IAQ objectives. The 44 certified libraries awarded with IAQ Certificates of Good Class or above are listed in Annex I. They account for 73% of the total number of libraries participating in the Certification Scheme. Also, testing and certification will be arranged in due course for 3 libraries newly opened or to be re-provisioned, including the Ping Shan Tin Shui Wai Public Library and the Lam Tin Public Library which opened at the beginning of this year, as well as the Pak Tin Public Library which will be re-provisioned in late 2013/early 2014.

For the remaining 13 libraries, the initial certification results revealed that 1 to 3 parameters among the 12 IAQ parameters of these libraries did not reach the Good Class IAQ objectives during some time-slots (such as periods of high occupancy). Among them, 6 libraries had 11 parameters in compliance with the objectives and only 1 parameter slightly higher than the Good Class IAQ objective; 4 libraries had 10 compliant parameters; and the remaining 3 libraries had 9 compliant parameters. A summary of the certification results is at Annex II.

The EMSD has taken immediate improvement measures in individual libraries which are found to have IAQ parameters failing to reach the Good Class IAQ objectives in some of their testing locations during periods of high occupancy. The measures include adjusting the air-conditioning system where appropriate to increase the fresh air supply and stepping up the cleaning of ventilation ducts etc. The LCSD has also worked with the EMSD to carry out improvement works as soon as possible to enhance the IAQ in these libraries. The works involve a total expenditure of around \$3.1 million and are expected to be completed by the end of this year.

The LCSD participates in the Certification Scheme with the aim of improving and enhancing the IAQ level of public libraries continuously to provide a favourable and comfortable reading environment for the public through an objective data assessment of the library IAQ level. It is believed that the above improvement works will further enhance the indoor air quality and reading

environment of public libraries. The LCSD will actively follow up on the matter with the EMSD.

Should you have any enquiries, please contact Ms Grace LAM, Chief Librarian (Operations & District Council Management) at 2601 8980.

Yours sincerely,

(LEE Yuk-man)

for Director of Leisure & Cultural Services

Encl.

c.c.

Secretary for Home Affairs (Attn: Mr Michael YAU)

## Indoor Air Quality Certification Scheme for Offices and Public Places <u>List of Certified Public Libraries</u>

- (A) Library awarded with Indoor Air Quality Certificate (Excellent Class) (Total: 1) Tung Chung Public Library
- (B) Libraries awarded with Indoor Air Quality Certificate (Good Class) (Total: 25)

#### Urban Areas

- 1. Kowloon Public Library
- 2. To Kwa Wan Public Library
- 3. City Hall Public Library
- 4. Ngau Tau Kok Public Library
- 5. North Point Public Library
- 6. Sau Mau Ping Public Library
- 7. Stanley Public Library
- 8. Yau Ma Tei Public Library
- 9. Hung Hom Public Library
- 10. Aberdeen Public Library
- 11. Lai Chi Kok Public Library
- 12. Shun Lee Estate Public Library
- 13. Shui Wo Street Public Library
- 14. Lockhart Road Public Library
- 15. Lei Yue Mun Public Library

### **New Territories**

- 16. Sheung Shui Public Library
- 17. Yuen Long Public Library
- 18. North Kwai Chung Public Library
- 19. Shek Wai Kok Public Library
- 20. Sai Kung Public Library
- 21. Tsing Yi Public Library
- 22. South Kwai Chung Public Library
- 23. Tsuen Wan Public Library
- 24. Tseung Kwan O Public Library
- 25. Mui Wo Public Library

(C) Libraries with an assessment in compliance with the Good Class IAQ objectives and applying for certification certificates (Total: 18)

#### Urban Areas

- 1. Smithfield Public Library
- 2. Tai Kok Tsui Public Library
- 3. Siu Sai Wan Public Library
- 4. Ngau Chi Wan Public Library
- 5. Shek Tong Tsui Public Library
- 6. Fa Yuen Street Public Library
- 7. Po On Road Public Library
- 8. Wong Nai Chung Public Library
- 9. San Po Kong Public Library
- 10. Ap Lei Chau Public Library
- 11. Quarry Bay Public Library

#### **New Territories**

- 12. Tuen Mun Public Library
- 13. Sha Tin Public Library
- 14. Peng Chau Public Library
- 15. Cheung Chau Public Library
- 16. Fanling Public Library
- 17. Ma On Shan Public Library
- 18. Butterfly Estate Public Library

(Note: Among the 67 static libraries under the LCSD, 60 have participated in the Certification Scheme; the remaining 7 small libraries are not eligible for joining the scheme as they have installed window-type air-conditioners or split-type air-conditioners.)

# Indoor Air Quality Certification Scheme for Offices and Public Places Initial Certification Results of the 13 Public Libraries not fully compliant with the Good Class Objectives

	Library	Summary of the Initial Certification Results (See Note <sup>1</sup> )
	Kowloon City Public Library	11 IAQ parameters complied with the Good Class objectives, except that the relative humidity in some testing locations once recorded a range from 70.2% to 80.4%, which slightly exceeded the Good Class objective (should be below 70%).
2.	Tai Po Public Library	11 IAQ parameters complied with the Good Class objectives; only the relative humidity in some testing locations once recorded a range from 72.6% to 75.9%, which slightly exceeded the Good Class objective (should be below 70%).
	Tai Hing Public Library	11 IAQ parameters complied with the Good Class objectives; only the CO <sub>2</sub> content in some testing locations once recorded 1 046 ppmv and 1 073 ppmv, which slightly exceeded the Good Class objective (below 1 000 ppmv).
	Tsim Sha Tsui Public Library	11 IAQ parameters complied with the Good Class objectives; only the $NO_2$ content in some testing locations once recorded 161 $\mu g/m^3$ and 169 $\mu g/m^3$ , which slightly exceeded the Good Class objective of 150 $\mu g/m^3$ .
5.	Chai Wan Public Library	11 IAQ parameters complied with the Good Class objectives, except that the relative humidity in some testing locations once recorded a range from 72.3% to 78.9%, which slightly exceeded the Good Class objective (should be below 70%).
6.	Electric Road Public Library	11 IAQ parameters complied with the Good Class objectives, except a slightly high CO <sub>2</sub> content in some testing locations with an average of 1 214 ppmv (the Good Class level should be below 1 000 ppmv).

The competent examiner will measure a total of 12 IAQ parameters, including 3 physical parameters (room temperature, relative humidity and air movement), 8 chemical parameters (carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), respirable suspended particulates (PM<sub>10</sub>), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), formaldehyde (HCHO), total volatile organic compounds (TVOC) and radon (Rn)), and 1 biological parameter (airborne bacteria).

Library	Summary of the Initial Certification Results (See Note <sup>1</sup> )
7. Tin Shui Wai North Public Library	10 IAQ parameters complied with the Good Class objectives; only 2 parameters did not reach the Good Class level:
	• the average CO <sub>2</sub> content was 1 112 ppmv, which slightly exceeded the Good Class objective (below 1 000 ppmv);
	• the average level of airborne bacteria was 1 567 CFU/m <sup>3</sup> in some testing locations (the Good Class level should be below 1 000 CFU/m <sup>3</sup> ).
8. Fu Shan Public Library	10 IAQ parameters complied with the Good Class objectives; only 2 parameters did not reach the Good Class level:
	• the average level of airborne bacteria was 1 350 CFU/m <sup>3</sup> in some testing locations (the Good Class level should be below 1 000 CFU/m <sup>3</sup> );
	• the TVOC content once recorded 273 ppbv and 308 ppbv (the Good Class level should be below 261 ppbv).
9. Tsz Wan Shan Public Library	10 IAQ parameters complied with the Good Class objectives; only 2 parameters did not reach the Good Class level:
	• the average CO <sub>2</sub> content was 1 143 ppmv (the Good Class level should be below 1 000 ppmv);
	• the average level of airborne bacteria was 1 700 CFU/m <sup>3</sup> in some testing locations (the Good Class level should be below 1 000 CFU/m <sup>3</sup> ).
10. Lok Fu Public Library	10 IAQ parameters complied with the Good Class objectives; only 2 parameters did not reach the Good Class level:
	• the average CO <sub>2</sub> content was 1 237 ppmv (the Good Class level should be below 1 000 ppmv);
10. Lok Fu Public Library	• the average level of airborne bacteria was 1 233 CFU/m <sup>3</sup> in some testing locations (the Good Class level should be below 1 000 CFU/m <sup>3</sup> ).
11. Un Chau Street Public Library	9 IAQ parameters complied with the Good Class objectives; the remaining 3 IAQ parameters did not reach the Good Class level in some testing locations and during periods of high occupancy:
	• the average CO <sub>2</sub> content was 1 615 ppmv (the Good Class level should be below 1 000 ppmv);
	• the average level of airborne bacteria was 1 400 CFU/m³ (the Good Class level should be below 1 000 CFU/m³);

Library	Summary of the Initial Certification Results (See Note <sup>1</sup> )
	• the average TVOC content was 313 ppbv, which slightly exceeded the Good Class objective of 261 ppbv.
12. Hong Kong Central Library	There were a total of 94 testing locations. 9 IAQ parameters complied with the Good Class objectives; the remaining 3 IAQ parameters did not reach the Good Class level in a small number of testing locations and during periods of high occupancy:
	• the CO <sub>2</sub> content on the whole reached the Good Class level (below 1 000 ppmv), except that 7 testing locations indicated an average CO <sub>2</sub> content of 1 114 ppmv;
	• the airborne bacteria and TVOC content of 11 testing locations were slightly high with an average of 1 236 CFU/m³ and 581 ppbv respectively (the Good Class level should be below 1 000 CFU/m³ and 261 ppbv respectively).
13. Lung Hing Public Library	9 IAQ parameters complied with the Good Class objectives; only 3 parameters did not reach the Good Class level:
	• the average CO <sub>2</sub> content was 1 108 ppmv (the Good Class level should be below 1 000 ppmv);
	• the average TVOC content was 418 ppbv (the Good Class level should be below 261 ppbv);
	• the average level of airborne bacteria was 1 330 CFU/m <sup>3</sup> in some testing locations (the Good Class level should be below 1 000 CFU/m <sup>3</sup> ).