

Electrical and Mechanical Services Department

Technical Guidelines on Code of Practice for Energy Efficiency of Building Services Installation 2012 Edition

Addendum No. TG-BEC01 (taking effect from 28 February 2014)

The following clauses of the above Technical Guidelines are revised as follows (**amendments shown in bold red**):

1) Clause 4.2.3.3

4.2.3.3 Completion of Major Retrofitting Works

Pursuant to section 17(3) of the Ordinance, the major retrofitting works are regarded as completed when all the building services installations involved in the works **unless otherwise specified in TG clause 10.1.8(c)** are ready to be used for its principal function as designed.

2) Clause 4.4.3

4.4.3 Illustrative Example on Applicable BEC Version

~~Consider a certain retrofitting of building services installation say in 2015, which may be a repair, a replacement or an addition in a prescribed building. Assume that the~~ Consider a building that was firstly issued in 2013 with a COCR during which BEC 2012 was the applicable BEC 2012 version, and a new version of BEC, say BEC 2012 (**Rev. 1**) was issued in **Feb** 2014, which remains at ~~2016~~ **early 2015** as the **then** updated BEC version.

- (a) Consider in ~~2015~~ **Dec 2014**, certain building services installation of the building's CBSI or in a unit in the building undergoes certain retrofitting not of the scope of major retrofitting works. Based on section 12(3)(a) of the Ordinance for CBSI and likewise section 12(4)(a) for units, the retrofitting should be maintained and thus designed to a standard not lower than that applied in the first COCR that had BEC 2012 as the applicable BEC version.
- (b) Nevertheless should the retrofitting in (a) be of the scope of major retrofitting works and involves the issuance ~~in 2015~~ **say in Dec 2014** of a FOC, the retrofitting, according to section 18(2) of the Ordinance, should be maintained and thus designed to a standard not lower than the BEC standard applied in the FOC, which in this case is BEC ~~2014~~ **2012 (Rev. 1)**.
- (c) Take on scenario (b) above and consider that in ~~2016~~ **early 2015**, a portion

of the **above** FOC covered installation undergoes further retrofitting not of the scale of major retrofitting works. The design standard of the portion of **the** FOC covered installation should be BEC ~~2014~~ **2012 (Rev. 1)**, ~~while that of other non-major retrofitting works is still BEC 2012.~~

3) Addition of sub-paragraph (d) to clause 5.4.1

5.4.1 Maximum Allowable LPD (BEC clause 5.4.1)

(d) Original LPD standards (Initial version) and revised LPD standards (Rev. 1)

For the different effective dates of the revised LPD standards (Rev. 1) in Table 5.4 of the Addendum no. BEC01 and the BEC 2012 (Rev. 1) in respect of the issue of stage one declaration (signed by the developer) and FOC (signed by the REA) under the Ordinance, please refer to the Technical Circular No. 1/2014 which is available at the web-site of the Ordinance. The revised LPD standards (Rev. 1) apply to the lighting installation covered in a stage one declaration or FOC issued on or after the corresponding effective date given in the Technical Circular. Both the original LPD standards (Initial version) and the revised LPD standards (Rev. 1) are acceptable in the stage one declaration and FOC issued before the corresponding effective date.

The edition of the BEC in a relevant standard form (Form EE1, EE2, EE3 and EE4 etc.) under the Ordinance for issuance on or after the corresponding effective date must be inputted as "2012 (Rev. 1)". For issuance before the aforesaid corresponding effective date, the edition of the BEC should be inputted as –

- (i) "2012 (Rev. 1)" if the revised LPD standards (Rev. 1) are adopted, or**
- (ii) "2012" simply if the original LPD standards (Initial version) are adopted.**

4) Clause 5.4.4

5.4.4 Multi-functional Space (BEC Table 5.4)

..... When the room is used as a banquet room or a ball room, its LPD provided by the function-specific combination of luminaires **(based on LPD standards of Initial version)** should not exceed 23 W/m², and when used as a seminar room 16 W/m².

5) Clause 5.5.2

5.5.2 Allowable Reduced Nos. of Lighting Control Points for Office (BEC clause 5.5.2)

~~Reduce~~ **The required** nos. of lighting control points in an office space **per BEC**

Table 5.5 (TG Table 5.5.1) ~~is allowed~~ can be reduced, subject to the actual LPD ~~value~~ in the space being lower than the maximum allowable value of 15 W/m² (based on LPD standards of Initial version), and the allowable reduction ratio is given by -

$$\text{Allowable reduction ratio} = \frac{15 \text{ W/m}^2 - \text{actual LPD}}{15 \text{ W/m}^2}$$

Example (based on LPD standards of Initial version) below further illustrates

6) Clause 5.6

Sample Calculation

.....

TG Table 5.6.1 below shows the calculation of LPD (based on LPD standards of Initial version) for each of the three functions.

.....

7) Table 10.1.4.3 in clause 10.1.4.3

10.1.4.3

Table 10.1.4.3 : Illustration for a Lighting Retrofit : Checking of Conditions for Applicability, for the Energy Efficiency Requirements				
Lighting control requirements in BEC clause 5.5				
.....	Lighting control requirement is not applicable to Corridor; the work Work does not involve a complete rewiring and hence the irrespective of the aforesaid its lighting control is not governed

8) Addition of clause 10.1.8

10.1.8 Retrofitting Works Involving Wiring Only (Wiring-only Works)

(a) Wiring-only works are not regarded as “major retrofitting works”. For example, when a tenant moves in a new office, if he/she retains the existing building services installations (such as luminaires, FCUs, VAV units etc.) provided and fixed in position by the developer, owner or preceding tenant and his/her retrofitting works only involve the inter-connecting power

supply/control wiring for the existing installations, his/her such wiring-only works are not regarded as "major retrofitting works". Nevertheless, if the retrofitting works are not confined to wiring only, care should be exercised to check if the criteria of major retrofitting works (explained in TG clause 4.2.5 and TG section 10) are met.

- (b) On the other hand, in case of a new building project as at issue of OA, the building services installations fixed in position (such as hung with stay wires from ceiling slab and lined up with false ceiling grids) in a unit (e.g. office) by the developer are regarded as part of the works completed by the developer and should be included in the stage two declaration even if the relevant wiring is left to be completed by the future tenant.
- (c) Likewise to (b), in case of major retrofitting works in a unit (e.g. office) as at the completion of the works, the building services installations fixed in position (such as hung with stay wires from ceiling slab and lined up with false ceiling grids) in the unit by the owner of the unit are regarded as part of the major retrofitting works completed by the owner of the unit and should be included in the respective FOC even if the relevant wiring is left to be completed by the future tenant.

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