Hong Kong
Energy Efficiency
Registration Scheme
for Buildings

2007 Edition
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This Registration Scheme document is available for download at

CHECK WEB-SITE FOR LATEST INFORMATION

Enquiry: hkeersb@emsd.gov.hk
1. Purpose

This document is intended to give a general description on the implementation of the Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERSB) to all interested parties such as Landlords, Tenants, Developers, Property Management Agents, Architects and Engineers who are in the building and construction industry, including both HKSAR Government and private sector.

The HKEERSB is independent of the Building Regulations and will not affect the issue of Occupation Permits.

2. Background

One of the energy efficiency & conservation initiatives of the Energy Advisory Committee of the HKSAR Government is to introduce to Hong Kong a comprehensive set of Building Energy Codes of Practice (BEC) to include lighting, air-conditioning, electrical, and lift & escalator installations in buildings. The BECs in Hong Kong were developed by the Electrical & Mechanical Services Department (EMSD), the executive arm of the Energy Advisory Committee, in collaboration with a number of Task Forces with representative organizations in the building industry including professional institutes, trade associations and the academia. The HKEERSB was launched in 1998 upon the recommendation of the then dedicated Task Force to provide an official registration to a building complying with a BEC. The HKEERSB aims to:

- arouse public awareness of energy efficiency, conservation and environmental improvement needs in building design;
- provide readily available, pre-purchase or pre-rental information on building energy consumption and efficiency data to enable the public to select and purchase more energy efficient properties;
- stimulate the property market and building developers to build more energy efficient new buildings; and
- achieve energy conservation for the benefit of property buyers and developers, and to the local and global environment.

In 2007, the HKEERSB provides an alternative certification path to existing buildings with good energy performance.

3. Certification

The HKEERSB is open to application for all types of new and existing buildings including renovated or refurbished buildings. Certification is subject to compliance with the requirements and exemptions of

- individual BECs in clause 4 below, or
good energy performance in clause 5 below.

The certified building will be awarded a Registration Certificate. Contributors to the certification will, upon nomination by the applicant engineer, also be issued appreciation certificates. Contributors could be tenants who initiate the application, developers/owners of the building, architects of the project, engineers of the project, contractors of the project, sponsors of the project, and relevant party so nominated.

4. Building Energy Codes

Registration of a building in the HKEERSB requires the compliance when designing the installation in question with one or more of the following codes published by EMSD, to the latest edition as at the time of design, with certification by a Registered Professional Engineer (RPE) detailed in clause 7 below:-

- Code of Practice for Energy Efficiency of Lighting Installations,
- Code of Practice for Energy Efficiency of Air Conditioning Installations,
- Code of Practice for Energy Efficiency of Electrical Installations,
- Code of Practice for Energy Efficiency of Lift & Escalator Installations, and
- Performance-based Building Energy Code.


5. Good Energy Performance

Existing buildings with good energy performance can be registered in the HKEERSB upon meeting the following criteria:

- with annual electricity consumption exceeding 500,000kWh,
- energy audit duly conducted in accordance with the ‘Guidelines on Energy Audit’ published by EMSD and certified by a RPE,
- at least Category I Energy Management Opportunities (EMO) carried out and certified by the RPE,
- Energy Consumption Intensity within the top 50th percentile of the relevant ‘Energy Consumption Indicators and Benchmarks Indicators’ gauged using EMSD’s ‘Benchmarking Tool for Buildings’ available on the Internet at http://www.emsd.gov.hk/emsd/eng/pee/ecib.shtml and certified by the RPE.

6. Scheme Administration

EMSD is responsible for the operation of the HKEERSB. EMSD will:

- maintain a list of participants in the HKEERSB with details such as registration number, date of registration, address, details of buildings and other related information,
- maintain a Register of registered buildings, where public access to the Register is provided on the Internet under EMSD’s web-site at http://www.emsd.gov.hk/emsd/eng/pee/eersb_reg.shtml, and
- periodically review the BECs and procedures for application, registration and compliance monitoring, etc. to keep them up-to-date.

7. Registration and Participation Procedures

a) All building developers, architects, SAR Government departments, and other parties involved in the building and construction industry are welcome and encouraged to participate in the HKEERSB. Applications shall be made using the Application Form at Appendix I. All applications and enquiries shall be submitted to:

Chief Engineer / Energy Efficiency B
Energy Efficiency Office, Electrical and Mechanical Services Department
3 Kai Shing Street, Kowloon Bay
[e-mail: hkeersb@emsd.gov.hk; fax: 2890 6081]

b) Applications for BEC compliance certification (clause 4) shall clearly state the relevant BEC that is complied with and shall include basic design parameters of relevant systems as well as a brief description of the choice of systems in the building. The submission shall be accompanied by relevant documents as required in individual BEC or Guidelines on Energy Audit. The Engineer shall be a Registered Professional Engineer (RPE) under the Engineers Registration Ordinance of the disciplines listed in Table 1 below. In case of public works projects, the Engineer could be an officer of the rank of engineer or above of the Government department acting as the works agent.

For new building projects or refurbishment projects, applications can be submitted during the design stage, construction stage or at construction completion when the services installations could be put into operation for inspection/testing purposes. For existing buildings, applications can be submitted at any time as long as the installations are in operation.
Table 1 - Required RPE discipline for HKEERSB submission

<table>
<thead>
<tr>
<th>Submission for compliance with:</th>
<th>Discipline of RPE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code of Practice for Energy Efficiency of Lighting Installations</td>
<td>Building Services, Electrical</td>
</tr>
<tr>
<td>Code of Practice for Energy Efficiency of Air Conditioning Installations</td>
<td>Building Services, Mechanical</td>
</tr>
<tr>
<td>Code of Practice for Energy Efficiency of Lift &amp; Escalator Installations</td>
<td>Building Services, Electrical, Mechanical</td>
</tr>
<tr>
<td>Code of Practice for Energy Efficiency of Electrical Installations</td>
<td>Building Services, Electrical</td>
</tr>
<tr>
<td>Performance-based Building Energy Code</td>
<td>Building Services, Electrical, Mechanical</td>
</tr>
<tr>
<td>Good energy performance</td>
<td>Building Services, Electrical, Mechanical</td>
</tr>
</tbody>
</table>

c) **Applications for good energy performance certification** (clause 5) shall be made by an Engineer checking through and certifying the compliance. The Engineer shall be a RPE of the disciplines listed in Table 1 above. In case of public works projects, the Engineer could be an officer of the rank of engineer or above of the Government Department acting as the works agent. The submission shall be accompanied by a set of documents, including energy audit forms, list of energy management opportunities, computer print-out showing Energy Consumption Intensity within the top 50th percentile of the relevant “Energy Consumption Indicators and Benchmarks Indicators” gauged using EMSD’s ‘Benchmarking Tool, relevant drawings etc.

d) The applicant shall be responsible for assessing and verifying the compliance with the BEC or good energy performance requirements. Upon receipt of application, EMSD will check for any explicit violation of requirements, and conduct site check as appropriate. EMSD will then enter the building information of a successful application into the Register and issue a Registration Certificate bearing the name of the building to the applicant. If the submission is not in order, the applicant will be informed and advised to amend or clarify his submission. An application with enhanced energy efficient design but not fully complying with the prescriptive requirements of a BEC may be considered for certification; the certification will be considered on a case-by-case basis though, depending on the merits of the enhanced energy efficient elements.

e) In order to uphold the credibility of the registration, EMSD may carry out random checks (including site checks) on the installations under the scope of the registration within one year after the certification.
8. Conditions of Participation

Participants shall:-

a) submit applications and all appropriate documents in accordance with the format and procedures set out in this document;

b) for BEC certification design & install all building services systems in accordance with the relevant BEC to suit the particular type of building;

c) follow the procedures set out in this document;

d) accept EMSD’s order to de-register the building from the Register if it fails to perform in accordance with the required energy performance standards as stipulated in this document;

e) remove within three months all forms of signs, display, advertisement, etc. claiming that registration for energy efficiency was granted to the building which had been de-registered;

f) accept that in addition to above, EMSD has the right to terminate the registration under the following situations:
   • repeated violation of the conditions set out in this document, or
   • false, inaccurate or misleading information is given on a display or an advertisement, or
   • in any other case where EMSD is of the opinion that registration of an application is contrary to public interest;

g) ensure that information included in advertisements, signs or displays is correct;

h) give at least a month’s written advance notice to EMSD before discontinuing participation in the HKEERSB or withdrawing registration;

i) provide access to responsible staff of EMSD where a site inspection is required and to allow him to take measurements and obtain necessary data for the equipment and installations under the scope of the registration;

j) inform EMSD of any major alteration and renovation subsequent to the registration of the building and submit documentation on the new installations to prove continuous compliance.

Participation is free of charge. However, participants shall be responsible for all associated expenditures (e.g. cost of deliverables, cost for employing RPE for certifying the installations, cost for documents & drawings submitted to EMSD etc.)

9. Publicity of Registration

Participants are allowed to include the information of the registration in public signs, displays, advertisements, etc. and may include the logos in Appendix II in documents (e.g. letter heads) related to the registered building.
10. Complaints and Appeals

The Chief Engineer / Energy Efficiency B (CE/EE B) will deal in person with complaints from participants and other parties. All complaints will be properly recorded and handled without delay. CE/EE B will carry out preliminary investigation on complaints and reply to the complainants within a reasonable time, usually within 18 working days. For complaints that require site inspection, an interim reply will be given.

Appeals against decisions or actions by CE/EE B may be made to the Director of Electrical and Mechanical Services (DEMS) for his personal attention in writing stating the reason for the appeal. DEMS may suspend the decision or action given by CE/EE B from the day on which the appeal is received until such time as the appeal is disposed of, withdrawn or abandoned unless such suspension would, in the opinion of DEMS, be contrary to public interest.

DEMS may by notice in writing to the appellant invite the appellant to attend before him or his representative, to provide documents and give evidence relevant to the appeal. DEMS will consider that an appellant has abandoned his appeal if he is not willing to attend meetings and/or give evidence relevant to his case. DEMS will notify the appellant of his decision and reasons for it. The decision will be final and binding.

11. Reviews

To suit changes in technological advancement and to cope with prevailing trade practices, reviews of the HKEERSB have been conducted from time to time by EMSD in conjunction with dedicated Task Forces with participation from representative organizations in the building industry including professional institutes, trade associations and the academia.

The reviews in 2001 & 2002 extended the HKEERSB to operate to 2004, ratified the issue of appreciation letters to certification contributors and exemption of enhanced energy efficient installations from BEC requirements, and opened up registration application to communal areas of residential buildings. Following the launch of the Performance-based Building Energy Code in April 2003, registration certification was extended to cover this code. The review in end 2004/2005 re-affirmed the HKEERSB’s vital role in the promotion of building energy efficiency, and concluded that its operation should be continued.

The review in 2006/2007 simplified the application forms, and provided an alternative certification path to existing buildings with good energy performance gauged with EMSD’s “Benchmarking Tool for Buildings”. With the launch of the 2007 edition of BEC, HKEERSB would offer certification based on the 2007 edition to installations with design commenced in October 2007. Installations designed earlier than October 2007 could follow the 2005 edition and apply for registration, and installations not complying with both of these editions of BEC could still apply for good energy performance certification.
Part (A) : General Information of Project / Building

(1) Project / Building Name :
(English) __________________________________________________
(Chinese) __________________________________________________

(2) Building Landlord
(English) __________________________________________________
(Chinese) __________________________________________________

(3) Building Management
Agency (if different from (2))
(English) __________________________________________________
(Chinese) __________________________________________________

(4) Address :
(English) __________________________________________________
(Chinese) __________________________________________________

(Site location plan in A4 size to be attached.)

(5) Type of Building :
□ Office □ Residential □ Industrial
□ Hotel □ Shopping Complex □ Education
□ Indoor Sports Complex □ Others
□ New Building □ Existing Building

(6) Gross Floor Area :
Office ______ m²  Shopping Complex ______ m²
Residential ______ m²  Educational ______ m²
Industrial ______ m²  Indoor Sports Complex ______ m²
Hotel ______ m²  Others ______ m²

(7) In case the project is a development with more than 1 block of building, please write a brief description on the scope of the development:

________________________________________________________________________

(8) Programme of project :

Project Commencement Date : ________________
Project Completion Date : ________________

(9) Number of floors and height of building(s) :

<table>
<thead>
<tr>
<th>Building Designation</th>
<th>Number of floors (including basement, but excluding roof and upper roof)</th>
<th>Height of building (meters)</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

(10) Submission History  (Please tick as appropriate)

□ This is the first submission.
□ This submission is a revision of previous submission. The reference number of the previous submission is ________________________.
Part (B) : Declaration

To: Director of Electrical & Mechanical Services
Attn: Chief Engineer / Energy Efficiency B, Energy Efficiency Office
7/F EMSD Headquarters Building
3 Kai Shing Street, Kowloon Bay

This submission is made by ________________________, Registered Professional Engineer / Engineer of 1 ____________ Department responsible for the above project. I can be contacted at telephone number ____________________, e-mail address ____________________, and correspondence address ____________________________________________________________.

By joining this voluntary Registration Scheme, I understand that I have committed to follow the requirements as stated in the Code of Practice or Guidelines below, and the procedures, requirements and conditions of participation stipulated in this HKEERSB scheme document. I would also keep the Electrical & Mechanical Services Department informed of any major change of the above information during the course of development.

I hereby declared that the project / building listed in Part A complies with one or more of the following documents inserted with a “tick” below (please tick as appropriate):

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Code of Practice for Energy Efficiency of Lighting Installations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Practice for Energy Efficiency of Air Conditioning Installations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Practice for Energy Efficiency of Electrical Installations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Code of Practice for Energy Efficiency of Lift and Escalator Installations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance-based Building Energy Code</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Energy Audit


Date of Energy Audit completion: __________ Date of Cat I EMO completion: __________
Energy Consumption Intensity: __________, at __________ percentile gaused with EMSD’s “Benchmarking Tool for Buildings”.

The following supporting Forms, documents and drawings are attached (please list):

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Date: __________________________ Signature: __________________________

RPE No.: ______________________ Discipline: __________________________

1 “Engineer of __________ Department” is for completion by engineers of SAR Government Departments only.
2 Installations with design commenced in Oct 2007 should follow the 2007 Edition of the BEC, and installations designed earlier could follow the 2005 Edition.
**Logo for Publicity**

Participants can include the logo in the figure in their documents concerning the registered buildings.

**Explanation on the usage of installation symbols**

Include the “light bulb” symbol in the logo only if the registered installation complies with the Code of Practice for Energy Efficiency of Lighting Installations.

Include the “thermostat” symbol in the logo only if the registered installation complies with the Code of Practice for Energy Efficiency of Air Conditioning Installations.

Include the “electrical energy” symbol in the logo only if the registered installation complies with the Code of Practice for Energy Efficiency of Electrical installations.

Include the “lift” symbol in the logo only if the registered installation complies with the Code of Practice for Energy Efficiency of Lift & Escalator installations.

Include the “Energy Audited” symbol in the logo only if the registered installation complies with the Energy Audit requirements in this document.

Include the "PB-BEC" symbol in the logo only if the registered installation complies with the Energy Audit requirements in this document.

**Examples**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Light Bulb" /></td>
<td>Complies with all BECs</td>
</tr>
<tr>
<td><img src="image" alt="Thermostat" /></td>
<td>Complies with Lighting &amp; A/C BEC</td>
</tr>
<tr>
<td><img src="image" alt="Electrical Energy" /></td>
<td>Complies with Electrical BEC only</td>
</tr>
<tr>
<td><img src="image" alt="Elevator" /></td>
<td>Complies with Lighting, A/C &amp; Electrical BEC</td>
</tr>
<tr>
<td><img src="image" alt="PB-BEC" /></td>
<td>Complies with Performance-based BEC</td>
</tr>
<tr>
<td><img src="image" alt="Energy Audited" /></td>
<td>Good energy performance</td>
</tr>
</tbody>
</table>