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29 December 2017

To: Recipients of BEEO Technical Circulars

Dear Sir/Madam,

Buildings Energy Efficiency Ordinance (Cap 610)
Technical Circular No.1/2017
Launch of Checklist for COCR Stage Two / FOC Submission and
MBEC Enquiry Form

Purpose

This Technical Circular launches the "Checklist for COCR Stage 2 / FOC Submission, EE-CH" and "MBEC Enquiry Form for Project Specific Issue, EE-EN", which serve to assist Registered Energy Assessors (REAs) in preparation of the COCR Stage Two/FOC submission and raise enquiry for project specific issue. These checklist and form have been uploaded to the web-site of the Ordinance (<http://www.beeo.emsd.gov.hk>).

Effective Date

2. EE-CH takes effect on 1 Feb 2018. All COCR Stage Two/FOC cases submitted to this Office on or after the effective date must be accomplished with this checklist.
3. EE-EN takes immediate effect.

Effect on Existing Circular

4. There is no effect on existing circulars.

Background

5. Pursuant to Section 9(2)(c) and Section 18(1)(c) of the Building Energy Efficiency Ordinance (Cap 610), the COCR and FOC submission shall accompanied by

the documents specified in the form (e.g. EE2, EE4, EE-LG, EE-AC, EE-EL, EE-LE etc.). From the past experience gained, incomplete and poor quality COCR/FOC have frequently been found which resulted in delaying the document processing time and creating necessary supplementary work.

6. To ensure the completeness of submission and streamline the approval process, a checklist, EE-CH serves to assist REAs to check and provide necessary information required in the COCR & FOC submission. The required information contained in the checklist, are either essential documents to be included or supplementary information to substantiate the compliance of the Building Energy Code, and by no means incur additional workload and effort for preparation of the submission.

7. On the other hand, a MBEC email, mbec@emsd.gov.hk, has been designated for stakeholders and public to raise enquiry about the statutory requirements of the BEEO and its Codes. To accurately address the inquirer's concerns and made an effective reply on project specific issue, an enquiry form, EE-EN has been devised for the use of relevant parties.

Yours faithfully,



(P.C. CHAN)

for Director of Electrical and Mechanical Services

Checklist for COCR Stage 2 / FOC Submission

Form EE-CH

Name of Building	
EMSD Ref. No. (COCR Only)	
Name of the REA	
REA Registration No.	
Date	

REA Signature

General	REA Qualification	Latest record of professional qualification (e.g. HKIE, RPE, etc.) to requirement of REA registration.		Essential requirement
	Building Name	Name of building in both English and Chinese to be printed on the COCR. Such building name appeared in Form EE2, EE-SU and technical forms should be consistent.		Essential requirement
	Occupation Permit	Copy of Occupation Permit from Buildings Department.		Essential requirement
	Developer identity	Supporting information to show the legal identity of the Developer (e.g. copy of Company Registration) if the developer stated in Form EE2 is different from that as indicated on Occupation Permit.		Essential requirement
	Application Fee	A crossed cheque made to "The Government of the Hong Kong Special Administrative Region".		Essential requirement
	Demarcation Plan	All the submitted schematic diagrams, layouts plans have clearly demarcated the exact portion/area involved in the submission.		
	Tenancy Agreement	Copy of Deed of Mutual Covenant (DMC) or tenancy agreement showing future tenants/ occupiers will be reminded to comply with Section 12 of the BEEO.		(for building with multi owners or occupier)

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REA Signature

EE-LG	Lighting Layout (general)	Scale of the lighting layout should be not more than 1:200. Various lighting spaces should be identified with its name & quantity of lighting on plan. Unnecessary layers not regarding to the lighting installations should be eliminated.		
	Lighting Layout (blow-up)	Blow-up plan with scale not more than 1:100 to show the reported IFA of some "critical spaces" with key dimensions as substantiation.		
	Lighting Schedule	A comprehensive lighting schedule (e.g. lamps designation no., lamp type, lamp wattage & etc.)		
	LPD Calculation	Detailed LPD calculation showing the way to come up with the reported LPD figures. Spaces reference no., lamps designation no. and its quantity of lighting fixtures for cross-reference with the lighting catalogues & lighting layout plan have been included. Spaces where the LPD not applicable (e.g. <70W) have been indicated in the lighting layout plan & LPD calculation.		
	Lighting Catalogue	Lighting catalogues, <u>highlighted</u> with the lamp rated power, control gear-loss and lamps designation no. for cross-reference with the LPD calculation & lighting layout plan, to show the way to come up with the reported LPD figures:		
	Scope of Lighting Works	Any lighting spaces which <u>NOT</u> under full fit-out works should be properly reported in the lighting layout plan & LPD calculation.		
	Decorative Lighting	On-site photo records showing the lighting effect of the lighting claimed to be solely for decoration. Such decoration lightings have been highlighted in the lighting layout plan for cross-reference with the submitted photo.		
	Automatic Lighting Control (ALC)	Lighting control plan with assigned lighting zone, location of sensor and photo records showing the provision of ALC for those applicable spaces having total lighting wattage of 150W or above.		

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EE-AC	COP	The catalogues for chiller, unitary AC & VRV showing the COP at cooling mode & heating mode (if applicable) is not less than the BEC specified min. figures (Tender document will not be deemed as a proper information to support the reported figures of COP). Remarks: (a) COP for chiller must be included the total energy consumption due to the evaporation fans. (b) Photo records should be submitted showing the site constraints resulted in high-static evaporation fans is required. The original chiller's COP at free flow should also be submitted.	Essential requirement
	Air Distribution System Fan Power (W/L/s)	Design calculation should be submitted showing that the CAV & VAV system are fulfilling the respective requirement (W/L/s). The fan/AHU designation no. should be included in the calculation & consistent with the ACMV equipment schematic for cross-reference.	Essential requirement
	A/C Control	It is advised to submit a proper supporting information (e.g. control wiring diagram, flow-chart for BMS control logic, pump curve with the part-load performance & etc.) showing the compliance in the various applicable A/C control as specified: - Pumping System Variable Flow - Temperature Control - Humidity Control - Zone Control - Off-hours Control - Demand Control for Carpark ventilation	Essential requirement
	Pressure Drop & Flow Velocity	Design calculation should be submitted showing the chilled water piping system is fulfilling the pressure drop & flow velocity requirement. - The water piping designation no., water flow rate, pipe size, velocity & pressure drop should be included in the calculation & consistent with the water side schematic for cross-reference	Essential requirement
	Thermal Insulation	Design calculation for thermal insulation should be submitted showing the actual thickness applied to various sizes of copper pipes/chilled water pipes & air duct. The catalogue of thermal insulation with indication of the key figures (e.g. thickness, density, thermal conductivity & etc.) should also be submitted to support the design calculation.	Essential requirement
	Energy Metering	Photo records with catalogue should be submitted showing that energy metering is provided to each chiller rated at 350kW or above to measure the parameters as required.	Essential requirement

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REA Signature

EE-EL	General	<p>Electrical schematic</p> <ol style="list-style-type: none"> 1. For multiple buildings, clearly distinguish electrical circuit for each building 2. Highlight all circuits >200A and <400A 3. Highlight all circuits ≥400A 4. Highlight all meters of power company 5. Highlight all spare ways for THD/TPF Correction Devices 6. Highlight all Energy Meters 	Essential requirement
	Copper Loss Calculation	<p>Copper loss calculation for feeder/sub-main/final circuit should be submitted. The contents should be included the cable designation no., type of circuit, cable size, cable type, voltage, design current, cable length, resistance value, copper loss & the % of copper loss.</p> <p>The REA is advised to provide the way to come up with the total length of cable for those circuits having a very margin copper loss figures to the respective maximum allowed limit.</p>	Essential requirement
	Energy Meter	<p>The catalogues for energy meter should be submitted showing its measurement abilities serving the following circuits:</p> <ul style="list-style-type: none"> - Energy meter serving the circuits at rating >200A and <400A. - Energy meter serving the circuits at rating ≥ 400A or any circuits for lift installation. The ability to measuring the 31st order of THD should be indicated in the catalogues. 	Essential requirement
	THD/TPF Correction Devices	<p>Photo record should be submitted showing the provision of THD/TPF correction devices or the 2 nos. of spare ways reserved for future connection of such devices for any circuits which governed by BEC Clause 7.6.1 & 7.6.2.</p> <p>MCC drawing for chiller plant is usually separated from the electrical schematic diagram. In such case, proper indication on the electrical schematic diagram should be remarked for cross-reference with the MCC drawing no. & so that the concerned circuits in MCC which governed by BEC Clause 7.6.1 & 7.6.2. can be referred.</p>	Essential requirement
		<p>Undertaking letter by building developer should be submitted for the tenant's compliance with the BEC Clause 7.6.1 & 7.6.2. Alternatively, the building developer may submit typical leasing agreement addressing the above mentioned requirement.</p>	Applicable for any circuit rated at 400A or above; or 3-phase circuit connecting to the meter of the electricity supplier. The concerned circuits are under the tenant's scope.
	Balancing of Single-phase Loads	<p>Design calculation should be submitted showing the maximum current unbalance at designed circuit current should not exceed 10% for three-phase 4-wire circuits at or above 400A.</p>	Essential requirement
	Motor Efficiency	<p>Fans/pumps catalogue should be submitted to declare the motor efficiency of AHU/pump if they are rated at or above 0.75 kW with 3-phase power supply. Please be reminded that some motors (e.g. fresh water pump/sump pumps under the scope of pumping & drainage) which traditional NOT regarded as the 4 CBSI will also be deemed as electrical installation & therefore the motor efficiency is also governed. The equipment designation no. should be included for cross-reference with the equipment schedule.</p>	Essential requirement
	Motor Sizing	<p>Design calculation should be submitted showing the motor output power should not exceed 125% of the anticipated system load.</p> <ul style="list-style-type: none"> - The motor designation no., air/water flow rate, pressure head requirement, overall efficiency of fan/pump, the calculated min. motor rating, the nearest motor rating available & the selection of motor rating should be included in the calculation. 	Essential requirement

Checklist for COCR Stage 2 / FOC Submission

Form EE-CH

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Name of the REA _____

REA Registration No. _____

Date _____

REA Signature

EE-LE	Measurement Record (Running Power, TPF & THD)	Supporting information (e.g. photo record, test report certifying by the registered lift engineer & etc.) showing the motor running active electrical power, total power factor & total harmonic distortion at full load up and rated speed.		
	Metering & Monitoring Devices	Photo record showing the provision of metering & monitoring devices or the electrical cubicle/junction box to be reserved in each lift for future connection of such devices.		
		Photo record showing the provision of metering & monitoring devices in each lift.		Essential requirement for Stage 2 submission to BEC 2015.
	Lift Decoration Load	Design calculation showing that the decoration load of each lift.		
	Lift Standby Mode	Supporting information (e.g. electrical wiring diagram) showing the ventilation in each lift can be automatically shut off & resume. Alternatively, the confirmation letter endorsed by the registered lift engineer for complying this requirement is acceptable.		
	Automatic Speed Reduction for	Photo record showing the provision of automatic speed reduction for Escalator.		Essential requirement for Stage 2 submission to BEC 2015.
	Lift Regenerative Braking	Photo record showing the provision of lift regenerative braking for the applicable.		Essential requirement for Stage 2 submission to BEC 2015.
LPD on Lift Car	As-fitted drawing with lighting catalogue showing the installed LPD inside lift car and support if LPD requirement on lift car is not applicable.			

MBEC Enquiry Form for Project Specific Issue

Form EE-EN

To: Energy Efficiency Office, EMSD

E-mail: mbec@emsd.gov.hk;

Fax: 2890 6081; or

Post: Energy Efficiency Office, 7/F, EMSD HQs, 3 Kai Shing Street, Kln

Section A (to be completed by REA and/or project team)

Part 1: Issue and Background			
Building Name:			
Building Address:			
EMSD ref no.:			
Type of issue:	Type of Submission:		
	Scope of Installation:	<input type="checkbox"/> LG	<input type="checkbox"/> AC <input type="checkbox"/> EL <input type="checkbox"/> LE
Part 2: Enquiry			
<i>Please provide supporting information (eg. Schematic drawing, layout, calculation) in relation to the enquiry.</i>			
Part 3 : Assessment by REA and/or Project Team			
<i>REA please provide preliminary view and judgment with justification on the above issue.</i>			
Signature of REA		Reg No.	
		Tel. No.	
Name		Fax No.	
Date		E-mail	email@abccompany.com

Notes to the Enquirer:

This office may offer interpretation/advice on legislative intent, statutory and energy efficiency requirements prescribed under the Ordinance and its Codes. However, it is **NOT** appropriate to direct us any enquiry about design input, system or equipment selection/specification, compliance check, etc.

To: REA and/or Project Team

Section B (to be completed by EMSD)

Part 1 : EMSD's reply			
Signature of EMSD case officer		Post	
		Tel. No.	
Name		Fax No.	2890 6081
Date		E-mail	mbec@emsd.gov.hk