



Energy Audit

1. Common Irregularities Found in EA Submission
2. Composite Buildings
3. Display of EA Form
4. Applicability of EA Requirement

珍惜資源 全民節能

Missing / incomplete information

**Form EE-EA
(Checklist)**

**Missing
information**

**Incomplete
contact
information**

Part 1 - General Information				
Name of Building	Commercial Building		商業大廈	
	English		中文	
Address of Building	4-5	Terrace		
	Street No.	Street		
	Tsim Sha Tsui		<input type="checkbox"/> HK <input checked="" type="checkbox"/> Kowloon <input type="checkbox"/> New Territories	
District				
Owner of Building	The building is owned by many separate owners		There is no Owners' Corporation	
	Name (Company / Organization / Owners' Corporation)*		名稱 (公司/機構/業主立案法團)*	
	Room/Flat	Floor	Block	Building
	Street No.			Street and District
	Correspondence Address of Owner			
	Tel. No.		Email Address	Fax No.
	Service Co Ltd		服務有限公司	Title
Name in English*		中文名*		
Room/Flat	Floor	Block	Building	
Street No.			Street and District	
Correspondence Address of Representative (can be a company, an organization or a person)				
2363		2333		
Tel No.		Email Address	Fax No.	
(If the Representative is a company or organization, please indicate below the Representative's contact person.)				
Position in company/organization	Name in English (contact person)*	中文名(聯絡人)*	Title	

Missing / incomplete information



Form EE-EA

Part 1 - General Information				
Name of Building	(Office Tower)		辦公大樓	
	English		中文	
Address of Building	8	Street		
	Street No.	Street		
	Mong Kok		<input type="checkbox"/> HK <input checked="" type="checkbox"/> Kowloon <input type="checkbox"/> New Territories	
	District			
Owner of Building	Multi-Owners		N/A	
	Name (Company / Organization / Owners' Corporation)*		名稱 (公司/機構/業主立案法團)*	
	N/A	N/A	N/A	
Representative of Owner of Building	Room/Flat	Floor	Block	
	Building			
	N/A	N/A		
	Street No.	Street and District		
	Correspondence Address of Owner			
	N/A	N/A		N/A
	Tel. No.	Email Address		Fax No.
	N/A		N/A	
	Name in English*		中文名*	
	Title			
N/A	N/A	N/A	N/A	
Room/Flat	Floor	Block	Building	
N/A				
Street No.	Street and District			
Correspondence Address of Representative (can be a company, an organization or a person)				
N/A	N/A		N/A	
Tel. No.	Email Address		Fax No.	
(If the Representative is a company or organization, please indicate below the Representative's contact person.)				
N/A	N/A		N/A	
Position in company/organization	Name in English (contact person)*		中文名(聯絡人)*	
		Title		

Incomplete contact information

→ should attach a list of contact info of the owners w/ the Form

Missing / incomplete information



Form EE-EAes

Administrative Information & Building Characteristics		
Building Characteristics		(EAC Clause 8.1)
(I) Building Type, Usage & Operation (Please click to select where applicable and insert N/A for non-applicable items.)		
1) Type of Building		
(a) Please choose the type of building of the building entity ^{^2} audited:	Commercial building	
(b) Please indicate the portion of the building entity being common area ^{^4} :	26.54%	
(c) Please indicate the no. of blocks ^{^2} of the building entity:	1.00	no. of blocks
2) Total internal floor area^{^5} of the building entity (m²):	4,568.54	
3) No. of floors^{^6} of the building entity:	26	
4) Major type of building façade:	Non-curtain wall	
5) Date(s) of issue of occupation approval (dd/mm/yyyy)^{^7}:		
6) Type of central air-conditioning^{^8} provided:	<input checked="" type="checkbox"/> Cool air <input type="checkbox"/> Chilled water <input type="checkbox"/> Condenser water only <input type="checkbox"/> Not applicable	

Missing information

Missing / incomplete information



Form EE-EAes

Energy Management Opportunities (EMO) ^{^34}							
Summary (numbers) of EMO Categorization ^{^27E} :		Category I		Category II		Category III	
		1	3				1
		Lighting	Air-conditioning	Electrical	Lift/Escalator	Others	
Ref. No.	EMO Category and Type						Description of EMO (EAC Clause 8.1(i))
	Category	Lighting	Air-Conditioning	Electrical	Lift/Escalator	Others	
(Please click to select where applicable)							
					Yes	DATA MANAGEMENT	
			Yes			SEQUENCING CONTROL FOR CHILLER	
		Yes				REPLACEMENT OF LIGHTING INSTALLATIONS TO LAMPS WITH HIGHER ENERGY EFFICIENCY	
			Yes			VSD CONTROL IMPROVEMENT OF AIR HANDLING UNIT	
			Yes			APPLICATION OF SUB-METERING FOR BUILDING SERVICES INSTALLATIONS	

Missing information

Misleading / confusing information



Form EE-EA

Part 3 - Energy Audit Report (EAC Section 8)

(Please select Yes or No)

1.	Executive summary (prepared using Form EE-EAes) included in the energy audit report (EAC Clause 8.2), and copied as attachment to this Form EE-EA?	Yes
2.	Following information included in the energy audit report (EAC Clause 8.1)?	
(a)	energy audit scope (EAC Clause 8.1(a))	Yes
(b)	building characteristics (floor area, occupancy, hours of operation, etc.) (EAC Clause 8.1(b))	Yes
(c)	description of equipment/systems audited (EAC Clause 8.1(c))	Yes
(d)	energy consumption and performance evaluation of equipment/systems (EAC Clause 8.1(d))	Yes
(e)	detailed technical characteristics of air-conditioning equipment/systems (EAC Clause 8.1(e))	Yes
(f)	total lighting power (EAC Clause 8.1(f))	Yes
(g)	analysis of historical energy consumption of building (EAC Clause 8.1(g))	Yes
(h)	the energy supply from the central building services installation to the building's units (EAC Clause 8.1(h))	Yes
(i)	potential EMO found through information review and site inspection (EAC Clause 8.1(i))	Yes
(j)	evaluations of potential EMO, including cost benefit analyses (EAC Clause 8.1(j))	Yes
(k)	referencing to past energy audit report, if available (EAC Clause 8.1(k))	Yes
(l)	classifications of EMO into categories I, II or III and recommendations (EAC Clause 8.1(l))	Yes
(m)	administrative information (audit commencement, energy bill reference month, etc.) (EAC Clause 8.1(m))	Yes

Should be "no" if there is no previous audit

Misleading / confusing information



Form EE5

To 致： Building owner 建築物擁有人

Cc 副本抄送： The Director of Electrical and Mechanical Services 機電工程署署長 (see note 5 overleaf 見背頁須知事項 5)

In accordance with section 22 of the Buildings Energy Efficiency Ordinance (Chapter 610), I, (full name) _____, Registered Energy Assessor (Registration No.: _____), certify that an Energy Audit in respect of the above building was completed on 16 / 9 / 2013 (DD/MM/YYYY). This Energy Audit Form will expire on 15 / 9 / 2023 (DD/MM/YYYY). (see note 4 overleaf)

The energy utilization index (EUI) per annum of the past 12-month period of the above building is 1397 $\text{MJ/m}^2/\text{annum}$, equivalent to 388 $\text{kWh/m}^2/\text{annum}$. (see note 5 overleaf)

茲根據建築物能源效益條例（第 610 章）第 22 條之規定，本人（姓名）_____，作為註冊能源效益評核人（註冊號碼：_____），現證明上述建築物的能源審核已於 2013 年 9 月 16 日 完成。本能源審核表格將於 2023 年 9 月 15 日 屆滿。（見背頁須知事項 4）

有關上述建築物過去 12 個月期間的按年計能源使用指數為 1397 兆焦耳/平方米/年，相當於 388 千瓦小時/平方米/年。（見背頁須知事項 5）

Not consistent

Form EE-EAes Part 2

Annual Energy Utilisation Index (EUI) of last 36-month (4) $\text{MJ/m}^2/\text{annum}$ ^{27E} (EAC Clause 8.1(g)ii)
(Value in $\text{kWh/m}^2/\text{annum}$ can be obtained by dividing the $\text{MJ/m}^2/\text{annum}$ figure by 3.6)

<u>1,850.34</u>	1,867.26	1,791.37
($\text{MJ/m}^2/\text{annum}$)	($\text{MJ/m}^2/\text{annum}$)	($\text{MJ/m}^2/\text{annum}$)
Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month

Missing / incomplete information



Form EE-EAes

Part 2 – Historical Energy Consumption Analysis ²⁹		(EAC Clause 8.1(g))			
1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)(i))		8,654,022.00	8,849,258.00	8,795,808.00	
	(kWh/annum)	(kWh/annum)	(kWh/annum)	(kWh/annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
2) Annual consumption of energy ³⁰ other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)(ii))		N/A	N/A	N/A	
	(MJ/annum)	(MJ/annum)	(MJ/annum)	(MJ/annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2) ^{27E} (EAC Clause 8.1(g)(i))		31,154,479.20	31,857,328.80	31,664,908.80	
	(MJ/annum)	(MJ/annum)	(MJ/annum)	(MJ/annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
4) Annual Energy Utilisation Index (EUI) of last 36-month (MJ/m ² /annum) ^{27E} (EAC Clause 8.1(g)(ii)) (Value in kWh/m ² /annum can be obtained by dividing the MJ/m ² /annum figure by 3.6)		400.66	409.70	407.22	
	(MJ/m ² /annum)	(MJ/m ² /annum)	(MJ/m ² /annum)	(MJ/m ² /annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
5) Monthly EUI of past 1 st 12-month period (MJ/m ² /month) (EAC Clause 8.1(g)(iii))	36.00	38.00	40.00	43.00	
	1 st month	2 nd month	3 rd month	4 th month	
	40.00	37.00	34.00	26.00	
	5 th month	6 th month	7 th month	8 th month	
	27.00	25.00	25.00	29.00	
	9 th month	10 th month	11 th month	12 th month ³¹	
6) Annual energy consumption breakdown, of past 1 st 12-month period (MJ/annum) (EAC Clause 8.1(g)(iv))	UA	UA	UA	UA	
	Air-conditioning ³²	Lighting	Lift & Escalator	Others ³³	
7) Energy supply from CBSI to building's units, as a percentage of the total energy consumption of past 1 st 12-month period (EAC Clause 8.1(h))	UA				UA
					(%)
8) Energy bill reference month (month for which the most recent energy bill has been issued by the energy supply utility prior to commencement of energy audit, i.e. the 12 th month of item 5) ending on					16/4/2013
					(dd/mm/yyyy)

Should provide estimation even measured figure not available

Missing / incomplete information



Form EE-EAes

Part 2 – Historical Energy Consumption Analysis ²⁹		(EAC Clause 8.1(g))			
1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)(i))		50,250.00	52,624.00	49,940.00	
	(kWh/annum)				
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
2) Annual consumption of energy ³⁰ other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)(ii))					
	(MJ/annum)				
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2) ^{31C} (EAC Clause 8.1(g)(ii))		180,900.00	189,446.40	179,784.00	
	(MJ/annum)				
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
4) Annual Energy Utilisation Index (EUI) of last 36-month (MJ/m ² /annum) ^{32E} (EAC Clause 8.1(g)(ii)) (Value in kWh/m ² /annum can be obtained by dividing the MJ/m ² /annum figure by 3.6)		82.33	86.22	81.82	
	(MJ/m ² /annum)				
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
5) Monthly EUI of past 1 st 12-month period (MJ/m ² /month) (EAC Clause 8.1(g)(iii))		6.76	6.76	6.59	6.81
	1 st month	2 nd month	3 rd month	4 th month	
	7.03	7.26	7.52	6.84	
	5 th month	6 th month	7 th month	8 th month	
	6.81	6.64	6.76	6.59	
	9 th month	10 th month	11 th month	12 th month ³¹	
6) Annual energy consumption breakdown, of past 1 st 12-month period (MJ/annum) (EAC Clause 8.1(g)(iv))		0.00	22,075.20	124,567.20	34,257.60
	Air-conditioning ³²	Lighting	Lift & Escalator	Others ³²	
7) Energy supply from CBSI to building's units, as a percentage of the total energy consumption of past 1 st 12-month period (EAC Clause 8.1(h))					
					(%)
8) Energy bill reference month (month for which the most recent energy bill has been issued by the energy supply utility prior to commencement of energy audit, i.e. the 12 th month of item 5) ending on					6/7/2013
					(dd/mm/yyyy)

深源

Missing information

Misleading / confusing information



Form EE-EAes

Part 2 – Historical Energy Consumption Analysis ^{*29}		(EAC Clause 8.1(g))			
1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)(i))		137,810.00	133,930.00	141,270.00	
	(kWh/annum)	(kWh/annum)	(kWh/annum)	(kWh/annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
2) Annual consumption of energy ^{*30} other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)(ii))		0.00	0.00	0.00	
	(MJ/annum)	(MJ/annum)	(MJ/annum)	(MJ/annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2) ^{*31} (EAC Clause 8.1(g)(i))		496,116.00	482,148.00	508,572.00	
	(MJ/annum)	(MJ/annum)	(MJ/annum)	(MJ/annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
4) Annual Energy Utilisation Index (EUI) of last 36-month (MJ/m ² /annum) ^{*27E} (EAC Clause 8.1(g)(ii)) (Value in kWh/m ² /annum can be obtained by dividing the MJ/m ² /annum figure by 3.6)		228.31	221.88	234.04	
	(MJ/m ² /annum)	(MJ/m ² /annum)	(MJ/m ² /annum)	(MJ/m ² /annum)	
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month		
5) Monthly EUI of past 1 st 12-month period (MJ/m ² /month) (EAC Clause 8.1(g)(iii))		21.30	18.80	20.90	19.40
	1 st month	2 nd month	3 rd month	4 th month	
	5 th month	6 th month	7 th month	8 th month	
	9 th month	10 th month	11 th month	12 th month ^{*32}	
	18.80	18.70	17.10	17.00	
	18.20	18.70	18.20	21.20	
6) Annual energy consumption breakdown, of past 1 st 12-month period (MJ/annum) (EAC Clause 8.1(g)(iv))		50,083.00	220,284.00	130,086.00	95,663.00
	Air-conditioning ^{*33}	Lighting	Lift & Escalator	Others ^{*33}	
	7) Energy supply from CBSI to building's units, as a percentage of the total energy consumption of past 1 st 12-month period (EAC Clause 8.1(h))				0.00%
					(%)
	8) Energy bill reference month (month for which the most recent energy bill has been issued by the energy supply utility prior to commencement of energy audit, i.e. the 12 th month of Item 5) ending on				10/6/2013
				(dd/mm/yyyy)	

Should have explanation in the EA report
e.g. bldg wholly occupied by the bldg owner

Misleading / confusing information



Form EE-EAes

Part 2 – Historical Energy Consumption Analysis ²²⁹		(EAC Clause 8.1(g))		
1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)(i))		3,719,349.00	3,755,574.00	4,088,111.00
	(kWh/annum)			
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month	
2) Annual consumption of energy ²³⁰ other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)(ii))		0.00	0.00	0.00
	(MJ/annum)			
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month	
3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2)) ²³¹ (EAC Clause 8.1(g)(ii))		13,389,656.40	13,520,066.40	14,717,199.60
	(MJ/annum)			
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month	
4) Annual Energy Utilisation Index (EUI) of last 36-month (MJ/m ² /annum) ²³² (EAC Clause 8.1(g)(ii)) (Value in kWh/m ² /annum can be obtained by dividing the MJ/m ² /annum figure by 3.6)		407.90	411.87	448.34
	(MJ/m ² /annum)			
	Past 1 st 12-month	Past 2 nd 12-month	Past 3 rd 12-month	
5) Monthly EUI of past 1 st 12-month period (MJ/m ² /month) (EAC Clause 8.1(g)(iii))		30.80	38.80	40.90
	1 st month	2 nd month	3 rd month	4 th month
	4 th month	5 th month	6 th month	7 th month
	8 th month	9 th month	10 th month	11 th month
	12 th month ²³³			
6) Annual energy consumption breakdown, of past 1 st 12-month period (MJ/annum) (EAC Clause 8.1(g)(iv))		10,039,075.20	621,961.20	364,824.00
	Air-conditioning ²³⁴	Lighting	Lift & Escalator	Others ²³⁵
7) Energy supply from CBSI to building's units, as a percentage of the total energy consumption of past 1 st 12-month period (EAC Clause 8.1(h))				100.00%
				(%)
8) Energy bill reference month (month for which the most recent energy bill has been issued by the energy supply utility prior to commencement of energy audit, i.e. the 12 th month of Item 5) ending on				31/03/2013
				(dd/mm/yyyy)

Misleading information

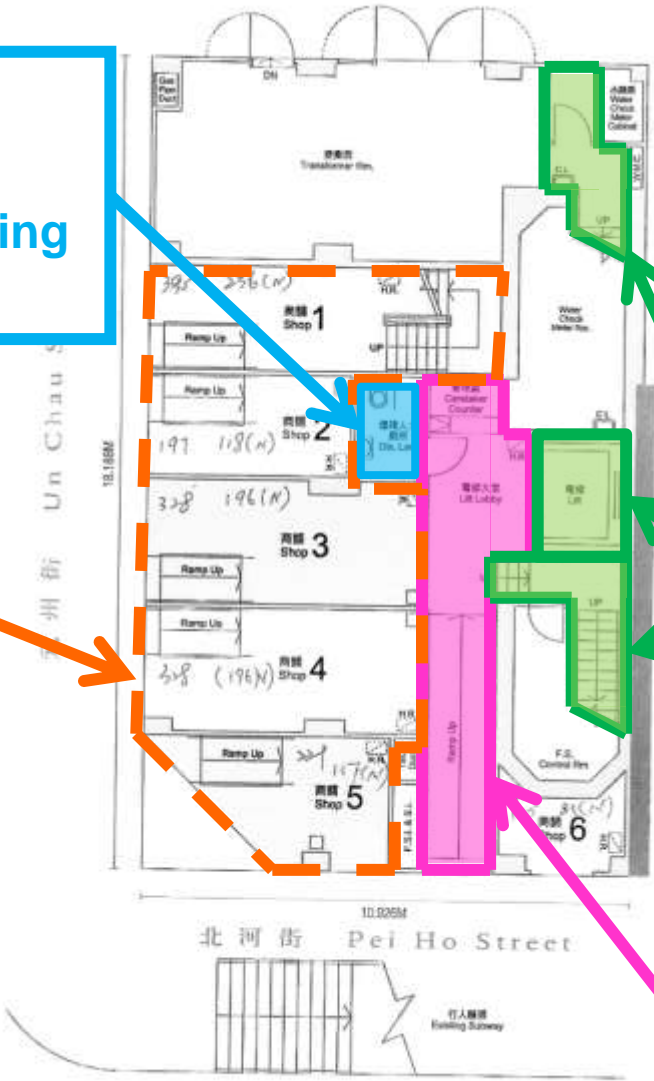
- No energy consumption under bldg owners' account
→ very unlikely

Composite Building (Typical)



- Common area in commercial portion
- BSI owned by building owner → CBSI

BSI if owned by individual tenant → not CBSI



BSI not solely serving commercial portion → EA not applicable

Residential area

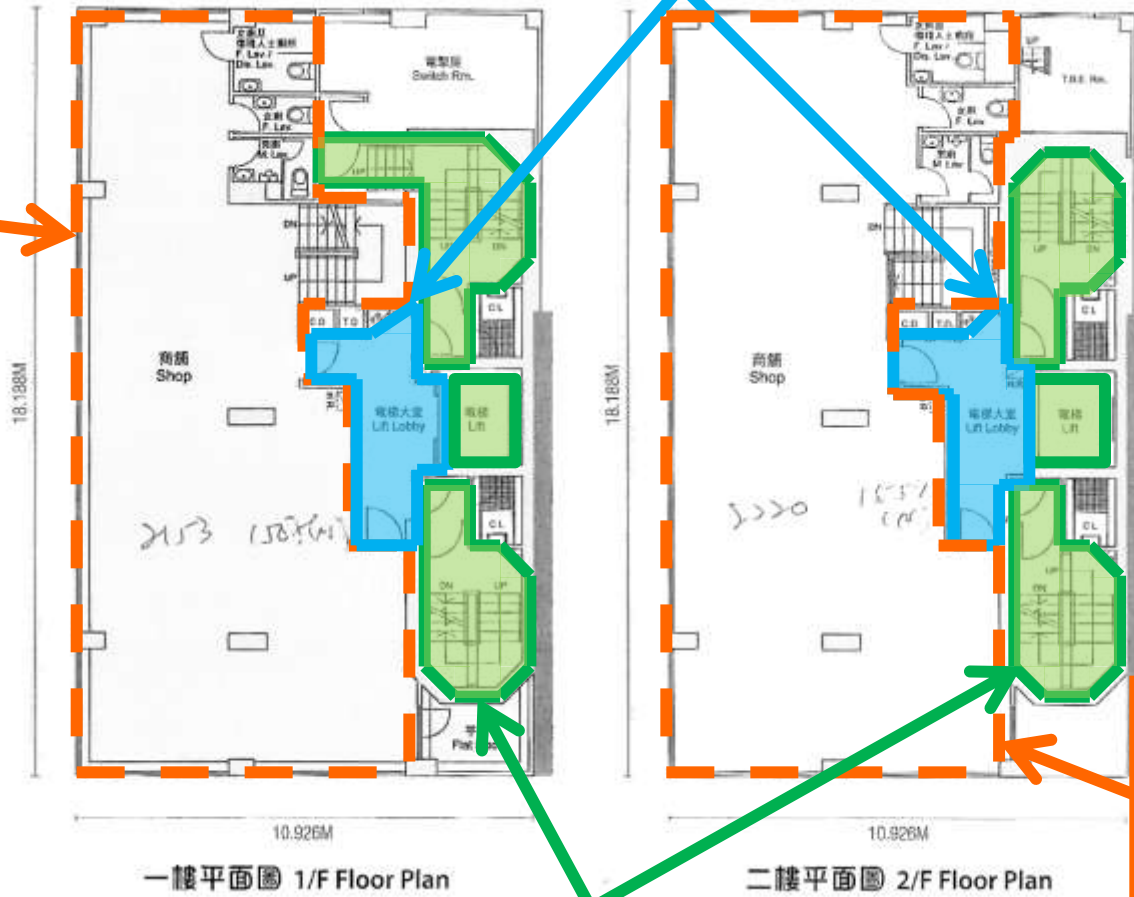
地下平面圖 Ground Floor Plan

Composite Building (Typical)



- Common area in commercial portion
- BSI owned by building owner → CBSI

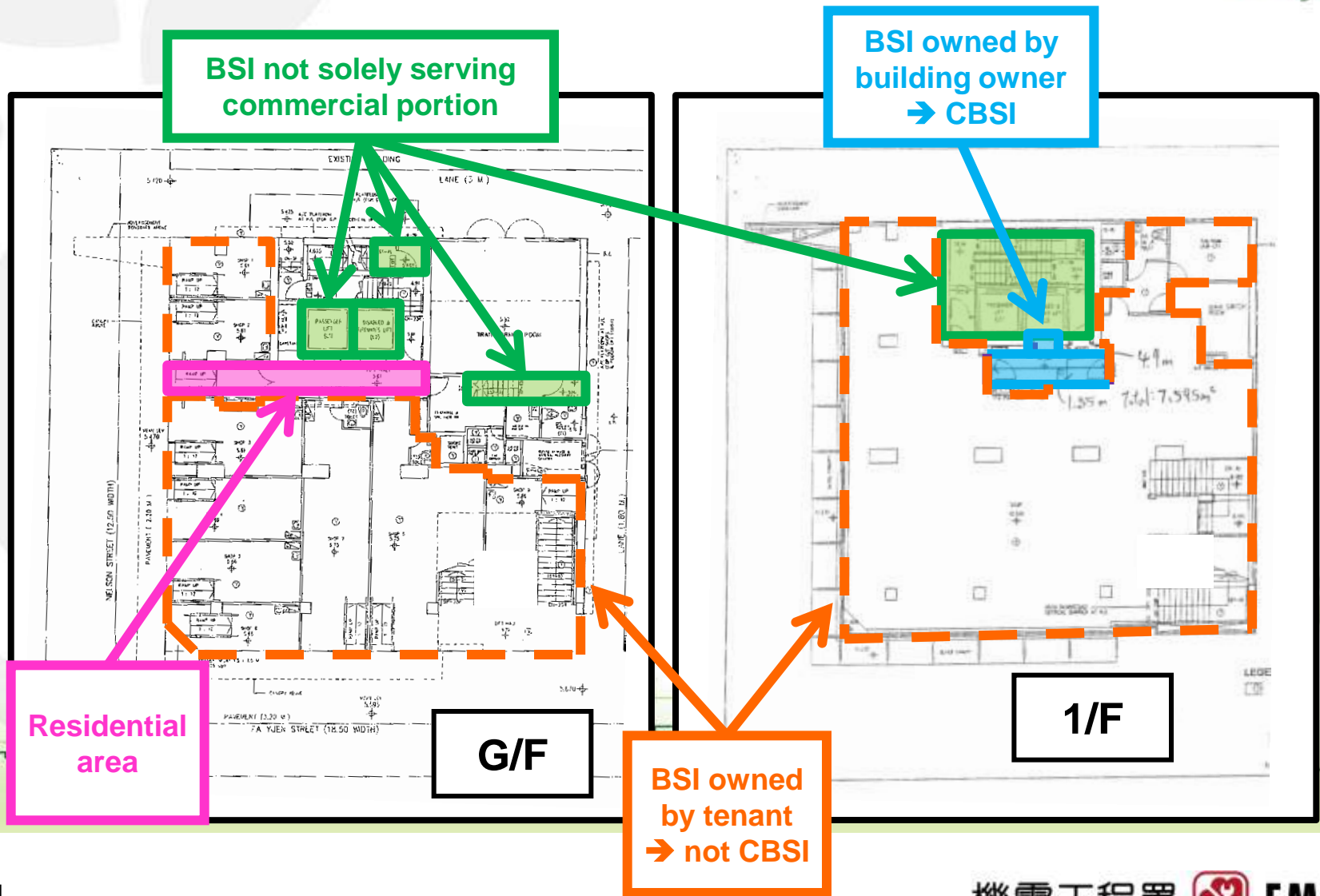
BSI if owned by tenant → not CBSI



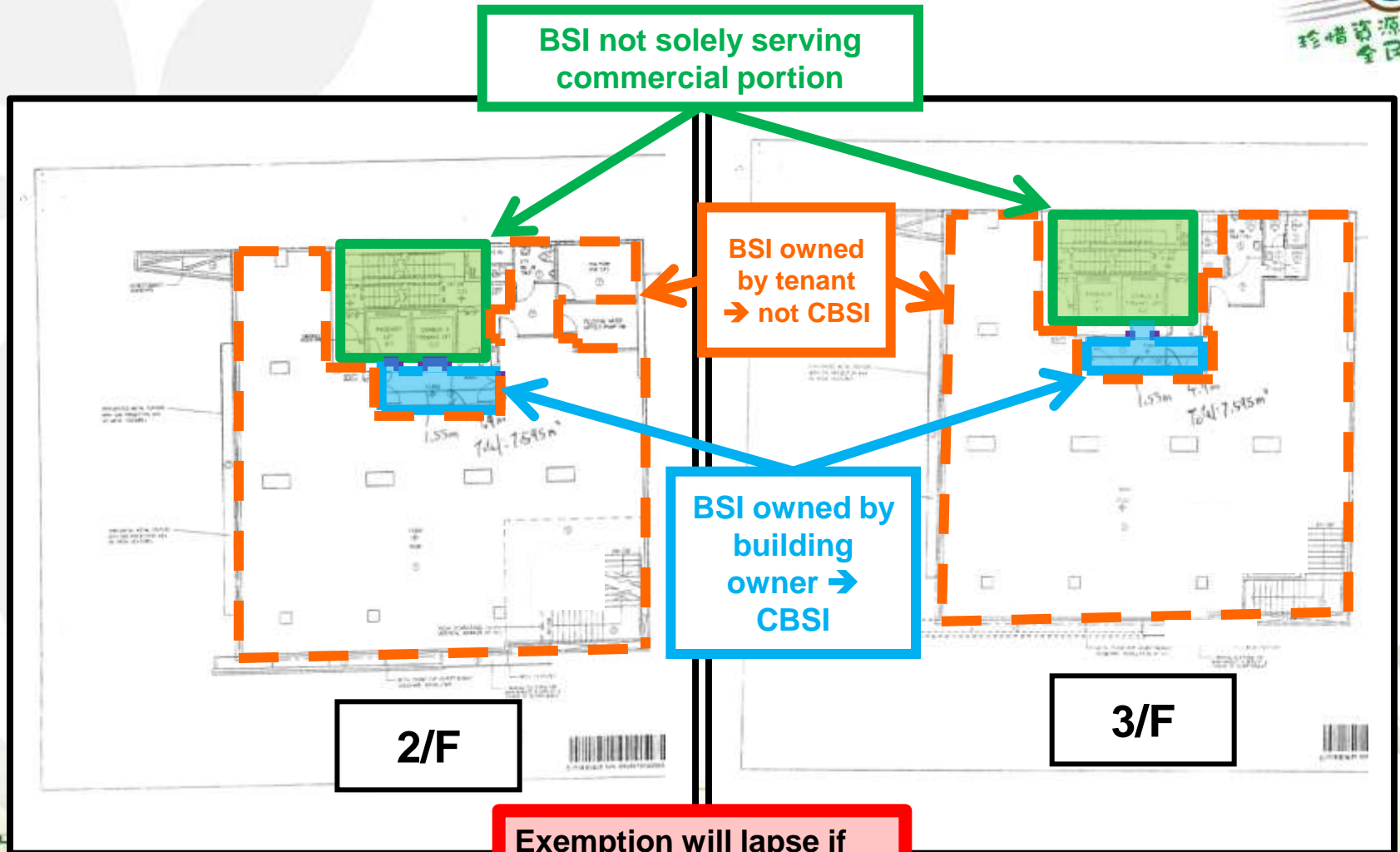
BSI if owned by tenant → not CBSI

BSI not solely serving commercial portion → EA N/A

Composite Building Applying for Exemption (Case 1)



Composite Building Applying for Exemption (Case 1)



Exemption will lapse if

- $\leq 195 \text{ m}^2$; and/or
- $\leq 100\text{A}$, 1-phase are no longer met

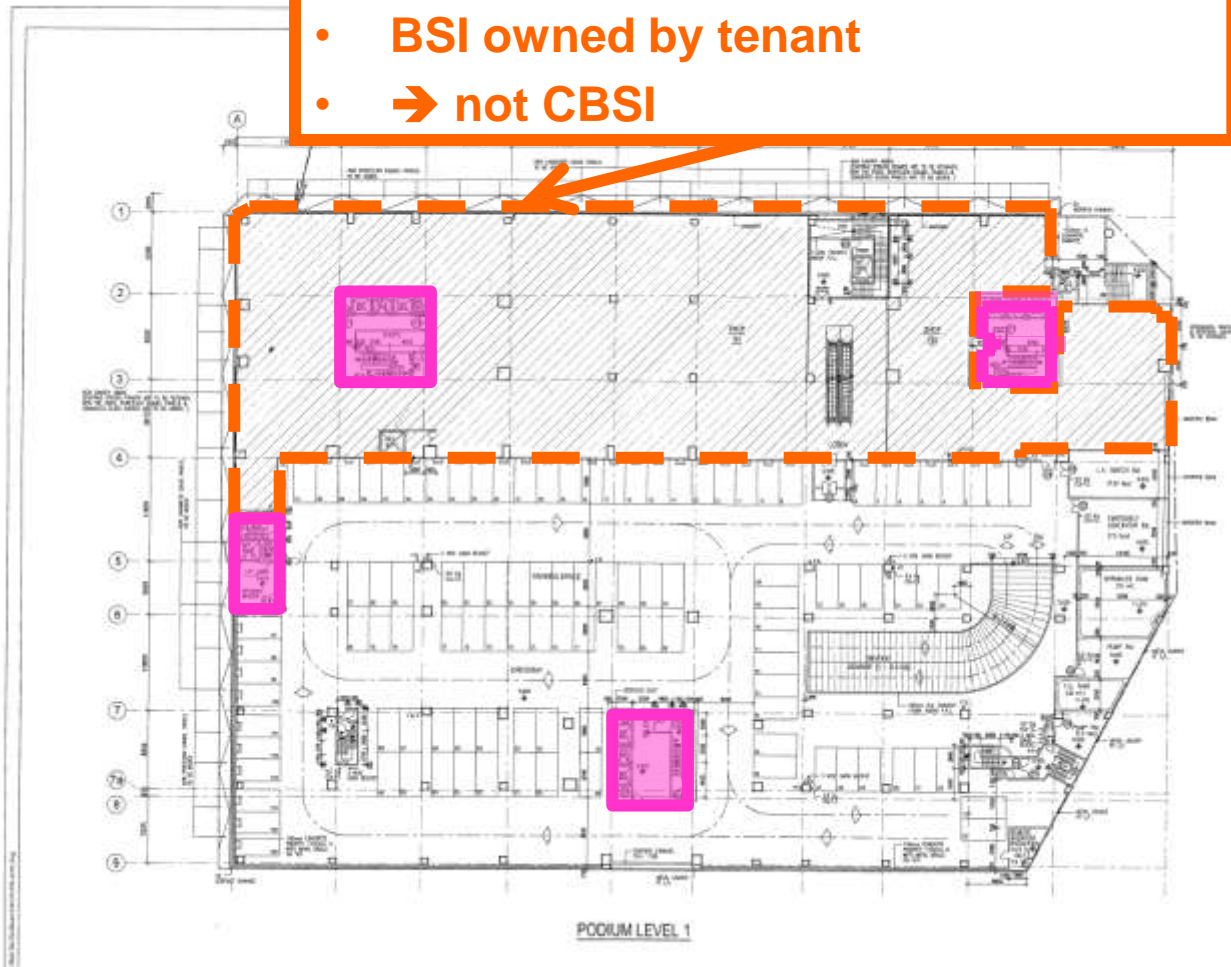
Composite Building Applying for Exemption (Case 2)



Composite Building Applying for Exemption (Case 2)



- Shop unit occupied by one tenant
- BSI owned by tenant
- → not CBSI



Composite Building Applying for Exemption (Case 2)



Chillers for shop units

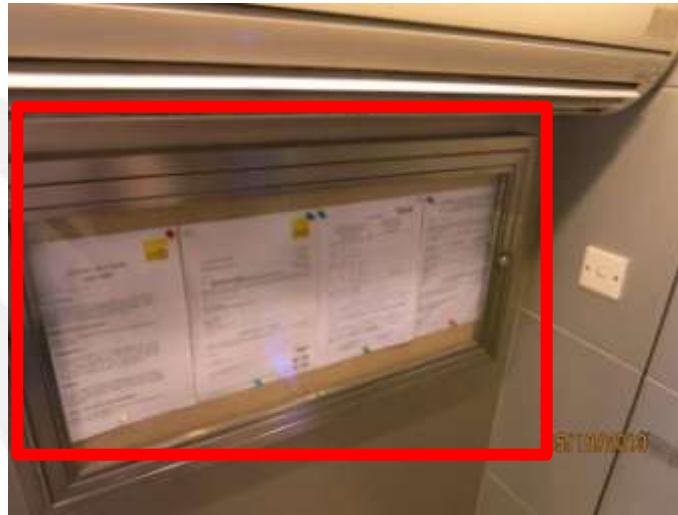


∴ Case rejected

Display of EA Forms



Acceptable cases



Display of EA Forms



Acceptable cases

At information centre near main entrance



Display of EA Forms

Not acceptable cases



Inside private office



LCD display

Applicability of EA Requirement



(I)

**Q: FOC obtained for a commercial building
→ May apply for exemption from EA?**

**A: No, EA is still required even FOC
obtained.**

Applicability of EA Requirement



(II)

Q: Commercial area (shopping centre) left unoccupied and not in operation for several years since the granting of OP. Is EA applicable?

A:

- **Apply for exemption for the BSIs from EA requirement [S25(1)] for operational reasons [S25(3)]**
- **Approval of exemption considered case by case**
- **Exemption will lapse once the commercial area is put in operation (occupied)**