



APPLICATION FOR APPROVAL OF DESIGN SCORE FOR BUILDING  
UNDERGOING  
MAJOR ENERGY-USE CHANGE

[Section 22FB of the Building Control Act (Cap.29)]

Date:

To:

Building and Construction Authority

Commissioner of Building Control  
Building and Construction Authority  
52 Jurong Gateway Road, #11-01  
Singapore 608550  
Website: <http://www.bca.gov.sg>

## Instructions

- This form may be submitted electronically.
  - All electronic submissions are to be digitally signed by the appointed Professional Engineer(Mech).
  - GFA for the respective building type shall be input with reference to URA Written Permission.
- This form may take 5-10 mins to complete.

## Application Type\*

1. Application for Approval of Design Score for Building Undergoing Major Energy-Use Change

I. Code for Environmental Sustainability Measures for Existing Buildings (Edition 3.0)

2. Application for Approval of Completion of Major Energy-Use Change and Submission of As-Built Score

I. Code for Environmental Sustainability Measures for Existing Buildings (Edition 2.0)

II. Code for Environmental Sustainability Measures for Existing Buildings (Edition 3.0)

## Particulars of Application

Project Reference Number

Building Name\*\*

Block Number\*

Road Name\*\*

Postal Code\*

Building Sector\*

Private / Public

Building Age\*

years

Single-Used

Mixed-Used

Building Type\*

GFA(m<sup>2</sup>)\*

Others

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Total:

\*For mixed development, fill in the areas for the respective building type.

### Section I Particulars of Building Owner(s)/Management Corporation

Name\*

Company Name

UEN

Designation

Address

Telephone No.

Handphone No.

Email Address

### Section II Particulars of Professional Engineer (Mech)

Name\*

Registration No.

Firm Name

UEN\*

Address

Telephone No.

Handphone No.

Email Address

## Declaration by Mechanical Engineer

- 11.1. I, confirm that I have been appointed under Section 22FB of the Act as the Mechanical Engineer in respect of the works herein described.\*
- 11.2. I, hereby confirm that the notification of appointment/authorization form titled 'BCA-EB-NAPPE01' is duly signed by the relevant parties and attached to this application.\*
- 11.3. I, certify that I have prepared the works shown in the plans and assessed the design score submitted with this application and I hereby declare that the said works and design score meet the minimum environmental sustainability standard applicable to the building subject to such waiver/ modification granted under Section 22FB(5) of the Act and are in accordance with the Act and the Building Control (Environmental Sustainability Measures for Existing Buildings) Regulations 2013.\*
- 11.4. I, hereby declare that the particulars provided in this application and the attached forms/documents are correct.\*

## Section III Submission Details

Age of building cooling system before retrofit\*  years

Expected date of commencement of retrofitting works\*

Expected Completion Date\*

Building Cooling Load Details\*

Audited

Designed

Building Energy Consumption Prior to Retrofit

kWh/yr

Building Energy Consumption after Retrofit (Estimated)

kWh/yr

## (a) Current Building Cooling System Details

- Unitary System - Split Systems / Variable Refrigerant Flow / Packaged Units

Description of air-conditioning system

Air-Con area served by unitary system

 m<sup>2</sup>

Total Installed Cooling Capacity

 RT kW

Total System Efficiency

 kW/RT COP

**Chiller Plant System**

Air-Cooled

Water-Cooled

Chiller Plant Configuration

Air-Con area served by chiller plant system

 m<sup>2</sup>

Daytime average cooling load

 RT

Nighttime average cooling load

 RT

Daytime average cooling load per air-con area

 W/m<sup>2</sup>

Nighttime average cooling load per air-con area

 W/m<sup>2</sup>

Chiller  
(kW/RT)

Chiller water  
pump  
(kW/RT)

Condenser  
water pump  
(kW/RT)

Cooling  
Towers  
(kW/RT)

Total System  
(kW/RT)

		Chiller (kW/RT)	Chiller water pump (kW/RT)	Condenser water pump (kW/RT)	Cooling Towers (kW/RT)	Total System (kW/RT)
<input type="checkbox"/> 24 Hrs	Daytime	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Nighttime	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
24 hours Average		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### (b) Proposed Building Cooling System Details

**Unitary System - Split Systems / Variable Refrigerant Flow / Packaged Units**

Description of air-conditioning system

Air-Con area served by unitary system

 m<sup>2</sup>

Total Installed Cooling Capacity

 RT kW

Total System Efficiency

 kW/RT COP

**Chiller Plant System**

Air-Cooled

Water-Cooled

Chiller Plant Configuration

Air-Con area served by chiller plant system  m<sup>2</sup>

Daytime average cooling load  RT      Nighttime average cooling load\*  RT

Daytime average cooling load per air-con area  W/m<sup>2</sup>      Nighttime average cooling load per air-con area  W/m<sup>2</sup>

		Chiller (kW/RT)	Chiller water pump (kW/RT)	Condenser water pump (kW/RT)	Cooling Towers (kW/RT)	Total System (kW/RT)
<input type="checkbox"/> 24 Hrs	Daytime	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Nighttime	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
24 hours Average		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

## Section IV Prerequisites And Options

I, confirm that the following requirements will be complied with in the As Built Submission.

<b>ENRB01 Building Energy Performance</b>		
<b>ENRB01-1 Whole Building Approach via Energy Audit</b>		<input type="radio"/>
<b>ENRB01-2 System Level Approach via Enhanced Energy Performance Standards</b>		<input type="radio"/>
<b>ENRB01-2(a) Air-Conditioning System</b>		
(i) Total System Efficiency for Water-Cooled Building Cooling System		<input type="checkbox"/>
(ii) Total System Efficiency for Air-Cooled Building Cooling System		<input type="checkbox"/>
<b>ENRB01-2(b) Lighting System</b> ( lighting systems for all spaces, excluding tenanted area )		<input type="checkbox"/>
<b>ENRB01-2(c) Mechanical Ventilation System</b> (for normally occupied spaces and carparks if there is a replacement)		<input type="checkbox"/>
<b>ENRB01-2(d) Vertical Transportation System</b> (if there is a replacement)		<input type="checkbox"/>
<b>ENRB02 Measurement and Verification (M &amp; V) Instrumentation*</b>		
<b>ENRB02-1 Instrumentation for Chilled Water Air-Conditioning System</b>		<input type="checkbox"/>
<b>ENRB02-2 Instrumentation for Variable Refrigerant Flow (VRF) System</b>		<input type="checkbox"/>
<b>ENRB03 Real-Time Remote Monitoring of Chiller Plant Operation*</b>		<input type="radio"/>
<b>ENRB04 Energy Utilisation Reporting*</b>		<input type="radio"/>

<b>ENRB05 Indoor Temperature*</b>	<input type="checkbox"/>
<b>ENRB06 Indoor Air Quality (IAQ) Audit*</b>	<input type="checkbox"/>
<b>CARBON REDUCTION MEASURES</b>	<input type="checkbox"/>
<b>SECTION 1 - SUSTAINABLE FEATURES</b>	
ENRBE01-1 Building Envelope Enhancement	<input type="checkbox"/>
ENRBE01-2 Naturally Ventilated Building Design	<input type="checkbox"/>
ENRBE01-3 Sustainable Products	<input type="checkbox"/>
<b>SECTION 2 - SUSTAINABLE OPERATION AND MANAGEMENT*</b>	
ENRBE02-1 Electrical Submetering	<input type="checkbox"/>
ENRBE02-2 Maintenance of Building Cooling System Performance	<input type="checkbox"/>
ENRBE02-3 User Engagement Plan	<input type="checkbox"/>
<b>SECTION 3 - SUSTAINABLE TECHNOLOGIES</b>	
ENRBE03-1 Renewable Energy System	<input type="checkbox"/>
ENRBE03-2 Smart Building Solutions	<input type="checkbox"/>
ENRBE03-3 Green Building Technologies	<input type="checkbox"/>

For the full Compliance Methodology, please refer to the details provided in the Code on Environmental Sustainability Measures for Existing Building (Edition 3.0).

## Section V Requirements and Submission Checklist

I, confirm that the following documents have been submitted along with this application

a)	Audit report on current air-conditioning system before retrofitting works is attached* (applicable to central chilled-water plant only)	<input type="checkbox"/>
b)	Cooling load calculations (if there is a change in cooling load or unitary air-conditioning systems installed)	<input type="checkbox"/>
c)	Design schematic drawing of proposed air-conditioning system (water-side) is attached*	<input type="checkbox"/>
d)	Chiller plant room layout drawing including position of M&V instruments using symbol and color scheme is attached*	<input type="checkbox"/>
e)	Chiller part-load performance data sheet from equipment supplier is attached*	<input type="checkbox"/>
f)	Chilled water pump selection data sheet and pump curves showing design flow and head, pump hydraulic efficiency, motor absorbed power and efficiency is attached*	<input type="checkbox"/>
g)	Condenser water pump selection data sheet and pump curves showing design flow and head, pump hydraulic efficiency, motor absorbed power and efficiency is attached*	<input type="checkbox"/>
h)	Cooling tower selection data sheet and location plans are attached*	<input type="checkbox"/>

i)	Project schedule for retrofitting works is attached*	<input type="checkbox"/>
j)	Attach a excel worksheet for Total System Efficiency computation template as supporting document*	<input type="checkbox"/>
k)	Declaration of GFA with supporting documents* (e.g. URA document)	<input type="checkbox"/>

## Fee Computation for approval of Design score for Building Undergoing Major Energy-Use Change

**Gross Floor Area (m<sup>2</sup>)**

**Computed Fees**

Rates

\$8,900 for the first 15,000 m<sup>2</sup> (or part thereof), and  
\$0.15 for every subsequent m<sup>2</sup> (or part thereof) of the gross floor area.

Total Plan Fee Payable

\$

## Payment Mode

Cheque ( Not applicable )

Cheque No.

Bank Name

Cheque Date

Amount Paid

ePayment

Please proceed to make ePayment after your e-Submission at  
<http://www.bca.gov.sg/ePayment/ePayment.html>

Paid Earlier

Payer's Detail:-

Name

Company Name

Email Address