

Form DCS-2

(For Stage 2 – Technical Submission)

Part A: Project Information	
A1. Submission Date	
A2. Revision (Initial Submission as Rev. 0)	
A3. Date of Last Approval	
A4. District Location/Area	
A5. Site/Lot No.	
A6. Name of Building	
A7. Consumer	
A8. Developer	
A9. Name of Authorized Person	
A10. Company of Authorized Person	
A11. Main Contractor	
A12. Name of RPE	
A13. Company of RPE	

Part B: Project Data		
B1. Detailed Cooling Load Calculation(s) showing the following Information		
B1.1	Total Floor Area (m ²)	
B1.2	Total AC Area (m ²)	
B1.3	Block Cooling Load (kW)	
B1.4	Intended Contract Cooling Capacity (kW)	
B1.5	DCS Substation Room Type* (TG Appendix D)	
B1.6	Required Clear internal room dimension TG 5.3.1.7	Dimension (Length x Width x Height) _____mm × _____mm × _____mm
B2.5	Clear internal room usable floor area	m ²
B1.8	Number of Heat Exchanger	
B1.9	Cooling Capacity Per Heat Exchanger (kW)	

*Remarks: It is determined by proposed cooling capacity as specified in Part B1.4 and evaluated according to TG Appendix C and D

Part B: Project Data												
B1. Detailed Cooling Load Calculation(s) showing the following Information												
B1.10 Cooling Load Calculation												
Portion	Floor	Occupancy Type	Floor Area	AC Area	Occupancy Density	Sensible Load per occupant	Latent Load per occupant	Lighting Power Density	Equipment Power Density	Design Indoor Temperature	Safety Factor	Cooling Load
			m ²	m ²	m ² /person	W	W	W/m ²	W/m ²	°C	%	kW
		Choose an item.										
		Choose an item.										
		Choose an item.										
		Choose an item.										
		Choose an item.										
		Choose an item.										
		Choose an item.										
		Choose an item.										

Part B: Project Data					
B2. Substation Builder's Work					
B2.1	Floor level of substation <i>TG 5.3.2.3</i>		B2.2	Finished Floor Level of Substation	mPD
B2.3	Road Pavement Level		B2.4	Curb Height	mm
B2.5	Structural Loading		Floor: _____ kPA Ceiling: _____ kPA Wall: _____ kPA		
B2.6	Anti-flooding Measures <i>TG 5.3.1.4 & 5.5.3.5</i>		Please put a "✓" as appropriate (can be more than 1): ☐ Elevated Platform ☐ Flood Barrier at each entrance ☐ At least 150mm curb at each entrance ☐ At least 100mm concrete plinth for HX and MIMEP modules ☐ Additional water leakage sensor at each entrance ☐ Others (please specify: _____)		
B2.7	Diaphragm Wall Thickness		mm		
B3 Heat Exchanger Arrangement and accessories					
B3.1	Clearance separation from Wall/Column to heat exchanger's plinth: Clearance between each HX <i>TG 5.3.6.2</i>		Separation from Wall / Column: Back: _____ mm Side: _____ mm Clearance between each HX: _____ mm		
B3.2	Meter installation: Pipe Size (Diameter)		mm		
B3.3	Straight pipe run with fitting for meter installation in terms of pipe diameter (D)		Upstream: _____ D Downstream: _____ D		
B4 Access for Delivery and Maintenance					
B4.1	Equipment delivery/ maintenance route (From Loading/Unloading to DCS Substation Room) <i>TG 5.3.1.3, 5.3.1.6, 5.3.5, 5.3.8 & 5.3.10</i>		Delivery Route Dimension (Width x Height) _____ mm × _____ mm		

Part B: Project Data					
B4 Access for Delivery and Maintenance					
B4.2	Substation Delivery Opening <i>TG 5.3.8</i>		Please put a “✓” as appropriate:		
		Type	Dimension (Width x Height) (mm)	Swing	
	☐	Single Leaf Door		Choose an item.	
	☐	Double Leaf Door		Choose an item.	
	☐	Hoisting Hatch		/	
	☐	Wicket Door		/	
B4.3	Hoist Equipment for installation work and future O&M		Please put a “✓” as appropriate:		
		Type	Number	kPA	
	☐	Hoisting Hook			
	☐	I-Beam with trolley			
	☐	Haulage			
B5 BS Provisions within DCS Substation – Ventilation					
B5.1	Design Parameters <i>TG 5.5.2.2</i>		Design Room Temperature: _____ °C		
			Design Air Moisture Content: _____ kg/kg		
B5.2	System Configuration <i>TG 5.5.2.2</i>		Please put a “✓” as appropriate:		
			☐ Mechanical Ventilation (Flow Rate: _____ m ³ /s)		
			☐ Air Conditioning System (Cooling Capacity: _____ kW)		
B5.3	Height of the ventilation outlet to free air above street level <i>TG 5.5.2.3</i>	m	B5.4	Type of filter at the supply inlet <i>TG 5.5.2.4</i>	
B5.5	Ventilation Control Provision <i>TG 5.5.2.6</i>		Please put a “✓” as appropriate (can be more than 1):		
			☐ Manual On/Off ☐ Timer Control		
			☐ Interlocking with temperature sensor		
B6 BS Provisions within DCS Substation – Plumbing					
B6.1	Number of cleansing water point <i>TG 5.5.3.3</i>		B6.2	Size of cleansing water point (Diameter) <i>TG 5.5.3.3</i>	mm

Part B: Project Data					
B7 BS Provisions within DCS Substation – Drainage					
B7.1	Number of Floor Drains <i>TG 5.5.3.2, Appendix D</i>		B7.2	Size of Floor Drains (Diameter) <i>TG 5.5.3.2, Appendix D</i>	mm
B7.3	Number of drain outlets with dome grating surrounding each heat exchanger <i>TG 5.5.3.6</i>		B7.4	Size of drain outlets surrounding each heat exchanger (Diameter) <i>TG 5.5.3.6</i>	mm
B7.5	Surface channel size (Width) <i>TG 5.5.3.6</i>	mm	B7.6	Substation Floor Gradient <i>TG 5.5.3.4</i>	1 in _____
B7.7	Provision flood alarm system <i>TG 5.5.3.5</i>	Please put a “✓” to confirm the provision: ☐ A flood alarm system includes (i) a high-water level sensor connected to a control panel within the substation; (ii) a flashing warning light at the substation entrance; and (iii) a water leakage detection sensor adjacent to the floor drain. ☐ Flooding signal shall be transmitted to the management system / control room of the building ☐ Flooding signal near EMSD’s DDC panel			
B8 BS Provisions within DCS Substation – Fire Services					
B8.1	Fire Services Provision <i>TG 5.5.4</i>	Please put a “✓” as appropriate (can be more than 1) ☐ Smoke / Heat Detectors ☐ Fire Extinguishers ☐ Others (please specify: _____)			
B9 Provisions within DCS Substation – Lighting					
B9.1	Average illumination at floor level <i>TG 5.5.5.1</i>		B9.2	Minimum illumination at floor level during emergencies <i>TG 5.5.5.5</i>	Lux
B9.3	Minimum battery duration for battery operated fix lighting during emergencies <i>TG 5.5.5.4</i>	hrs			
B9.4	Lighting Power Connection <i>TG 5.5.5.2</i>	Please put a “✓” to confirm the provision: ☐ Adjacent lighting fittings are fed from different circuits			
B9.5	Luminaire selection <i>TG 5.5.5.3</i>	Please put a “✓” as appropriate: ☐ T5 ☐ LED ☐ Others (Please specify: _____)			
B9.6	Luminaire selection – IP Ratings <i>TG 5.5.5.3</i>	Please put a “✓” to confirm the provision: ☐ The lighting fitting with IP54 or above			

Part B: Project Data					
B10 Provisions within DCS Substation – Power Supply					
B10.1	Rating of Main Switch <i>TG 5.5.6.1</i>	A	B10.2	Number of final circuits protected by MCB <i>TG 5.5.6.1</i>	
B10.3	Number of 13A single phase socket outlets <i>TG 5.5.6.1</i>		B10.4	IP Rating of Distribution board <i>TG 5.5.6.1</i>	
B10.5	Power supply provision <i>TG 5.5.6.2</i>	Please put a “✓” to confirm the provision: ☐ Provide power supply for EMSD's instrumentation & control and other accessories in each substation near EMSD's PLC panel			
B10.6	Earthing Provision <i>TG 5.5.8</i>	Please put a “✓” to confirm the provision: ☐ Earthing terminal connecting points inside the substation to the main earthing terminal of the building ☐ Earthing to the electrical equipment			
B11 Provisions within DCS Substation – Telecom					
B11.1	Number of fixed telephone line with outlet <i>TG 5.5.7</i>				
B11.2	Telecom provisions <i>TG 5.5.7</i>	Please put a “✓” to confirm the provision: ☐ The telephone set provided is inside the substation ☐ Mobile phone signal coverage provided at the substation			
B12 Provisions within DCS Substation – Temporary Facilities					
B12.1	Temporary provisions during installation <i>TG 5.6</i>	Please put a “✓” to confirm the provision: ☐ Temporary provisions of power, fire services, security system, storage area for DCS equipment, refuse collection point and bypass pipe as specified in TG5.6 will be provided			
B13 Consumer-side Design Checking					
B13.1	Consumer-side design criterion <i>TG 6.3</i>	Please put a “✓” to confirm the compliance: ☐ Terminal equipment is designed based on the required supply ($6 \pm 1\text{ }^{\circ}\text{C}$) / return temperature (14°C) ☐ Variable speed chilled water pump adoption ☐ A bypass pipe with a modulating valve isolated between the chilled water supply and return ☐ Control valves of the terminal units shall be 2-way equal % control valves (no three-way valves) ☐ Discharge side of consumer-side chilled water pumps shall connect to heat exchangers ☐ No connection of any discharge water from heat absorption equipment to chilled water return side of heat exchanger			

Part B: Project Data		
B14 Works Programme		
B14.1	Required availability date of DCS puddle flange to be casted in building perimeter wall, such as basement diaphragm wall	____(D) / ____ (M) / ____ (Y)
B14.2	Handover date of work area / pipe trench for DCS pipe / ducting installation to EMSD	____(D) / ____ (M) / ____ (Y)
B14.3	Handover date of substation to EMSD [#]	____(D) / ____ (M) / ____ (Y)
B14.4	Chilled water supply date of consumer side for T&C of the heat exchangers and related facilities [^]	____(D) / ____ (M) / ____ (Y)
B14.5	Intended start date of DCServ	____(D) / ____ (M) / ____ (Y)

Remarks:

Please note that the handover date should normally be at least five (5) months before the agreed starting date

[^] The applicant shall complete hydraulic pressure test for their chilled water pipe work and flushing of the chilled water pipework before connection to DCS

Part C: Checklist of Information to be submitted (Please put a “✓” as appropriate)	
C1	☐ Summary of changes with reply to comments (for resubmission only)
C2	☐ General Building Plan ☐ Highlight with color of all A/C Areas ☐ Show the substation location # ☐ The required clean room dimension for DCS substation as specified in Part B1.6 can be met # ☐ Showing the floor level and floor gradient within DCS substation
C3	☐ Layout and Section drawings showing DCS pipe and cable duct routing from designated valve chamber to substation, including setting out of pipe, pipe trench, pipework penetration openings at wall, thickness of diaphragm wall, etc.
C4	☐ Layout and Section drawings showing the structural layout and sectional arrangements, including all major structural elements, along with structural calculations demonstrating the adequacy and compliance of the proposed structural design
C5	☐ Equipment Delivery Route and Maintenance route swept path study • Layout and section drawing showing the dimension of delivery path (from loading/unloading to DCS substation room), dimensions of delivery openings in substation room, opening direction of doors • Layout and section showing clearance of DCServ equipment • Layout and section showing maintenance swept path for equipment and modules inside substation • Layout and section showing hoisting equipment for installation work and future O&M and design loading of hoisting equipment
C6	☐ Undertaking Letter for 24-hour free access to DCS installations from building owner
C7	☐ Development's detail annual cooling load simulation / calculation
C8	☐ Drawings (including schematic, layout, section, installation details) of Consumer-side air conditioning design indicating the following: • Location of air vents • Chilled water treatment system • VSD chilled water pump and interfaces (e.g. pump on/ff common signal; discharge connected to heat exchanger(s)) • Terminal unit design basis (e.g. design CHWS/CHWR temperature; 2-way equal percentage control valves) • CHWS-CHWR bypass with modulating valve (at consumer side)
C9	☐ Preliminary Programme showing DCServ-related milestones
C10	☐ Flood risk assessment and mitigation measures (if applicable)
C11	☐ Consumer's backup chiller plant justification (if applicable)

Part C: Checklist of Information to be submitted (Please put a “✓” as appropriate)	
C12	☐ Drawings (including schematic, layout, section, installation details within DCS Substation indicating the following building services installations: <u>Ventilation System:</u> • Location, dimension and effective area of ventilation inlet and outlet to free air • Type of filter and location • Control of mechanical ventilation fan(s) or air conditioning unit(s) <u>Plumbing and Drainage System:</u> • Location and size of cleansing water point • Location and size of floor drain within DCS substation room • Location of size of drain outlet with surface channel surrounding heat exchanger • Flooding alarm control <u>Fire Services System:</u> • Location of smoke / heat detectors • Location and capacity of fire extinguisher <u>Lighting System:</u> • Lighting layout showing the types and locations • The circuit connection to ensure the adjacent lighting fittings should be fed from different circuits of the distribution board <u>Electrical and ELV:</u> • Rating and location of power supply points and circuits with protective device • Telecommunication points

Remarks:

- #If the location of substation cannot be complied with “Technical Guideline for Connection to District Cooling System”, a detailed justification referring to the site constraints that affect the compliance with this requirement together with alternative proposal shall be submitted to EMSD for consideration and approval.
- All drawings submitted by the applicant/ approved consumer should be in one set of hardcopy and softcopy formats. The softcopy should be in “.dwg” format and compatible with either one of the latest three AutoCAD® versions. For submission using BIM model, the “BIM-AM Standards and Guidelines” issued by EMSD and “Guidelines for Using Building Information Modelling” issued by the Buildings Department should be followed.

Part D: Declaration		
Declaration by the Authorized Person / Registered Professional Engineer of the Building		
D1	I, as the *Authorized Person (AP)/ Registered Professional Engineer (Building Services or Mechanical Engineering discipline) (RPE) of the building, confirm that the above submitted information is accurate and compliance with the relevant technical requirements as specified in latest Technical Guidelines for Connection to District Cooling System and District Cooling Services Supply Condition. Signature of Designer _____ Full Name of Designer _____ RPE Registration No of Designer (*Building Services / Mechanical Engineering Discipline) _____ Company: _____ Tel. No: _____ Fax No.: _____ Email: _____ Corresponding Address: _____ Date: _____	
		Company Chop:
Declaration by the Applicant of the Building		
D2	I, as the Applicant of the building, confirm the above *AP/ RPE of the building is employed by our company, and I fully support his/ her submission. Signature of Applicant or his Representative: _____ Full Name of Applicant or his Representative: _____ Company: _____ Tel. No: _____ Fax No.: _____ Email: _____ Corresponding Address: _____ Date: _____	
		Company Chop

Part E: (to be completed by EMSD)

File Ref No: _____

Application Ref No.: _____

Have checked form DCS-2 and associated plans/ drawings, the application submitted by
_____ to use DCS at
(building name and address of premises) _____

_____ is

- ☐ Approved.
- ☐ Approved with conditions: _____.
- ☐ Rejected: _____.

Please note that the approval granted for this application is valid for two years and will be lapsed on _____(DD/MM/YYYY), counting from the approval date. If the applicant cannot proceed to the next stage of the application within the validity period and fails to provide a valid justification, this approval will be considered invalid and a fresh application shall be provided.

Please note that approval at this stage is granted in principle and for assessment purposes only. Reservation of cooling capacity will be subject to a successful Stage 3 application.

Officer Name:

Email: _____

Telephone Number: _____

Date: _____

重要聲明

任何人士試圖向任何政府人員提供利益(按照香港法例第 201 章《防止賄賂條例》中對利益的定義)，以影響本申請的結果，即構成《防止賄賂條例》下的罪行，並導致有關申請無效，而機電工程署會把個案向廉政公署報告。如任何政府人員或其代理人就本申請向你索取利益，你應向廉政公署舉報(電話號碼：2526 6366)。

個人資料私隱聲明

收集個人資料的目的

1. 在本表格所提供的個人資料，政府會用於下列目的：
 - (a) 進行與處理在本表格所作呈交有關的工作；
 - (b) 進行與《區域供冷服務條例》所訂規定有關的工作；以及
 - (c) 方便政府與你通訊。

受讓人類別

2. 當收到你所呈交的資料後，在本表格及隨本表格呈交的所有文件收集到的所有個人資料會備存於機電工程署，並會向部門的資料使用者披露。
3. 本署收集及使用的資料，可能會轉交代理或關連公司，以便提供所需服務及產品。

查閱個人資料

4. 根據《個人資料（私隱）條例》第 18 及第 22 條，以及附表 1 第 6 原則的規定，你有權查閱及改正個人資料。你的查閱權包括索取在本表格所提供個人資料的副本。

查詢

5. 任何關於本表格所收集個人資料的查詢，包括要求查閱及改正資料，請以書面形式向機電工程署署長提出，地址為：香港九龍啟成街 3 號機電工程署。至於其他一般查詢，請致電政府熱線 1823。

Important Disclaimer

“Any attempt to offer advantage (as defined in the Prevention of Bribery Ordinance (“POBO”) (Chapter 201 of the Laws of Hong Kong)) to any Government officer with a view to influencing the outcome of this application constitutes an offence under the POBO and renders the application invalid. The case will be reported to the Independent Commission against Corruption. You should report to the ICAC (Telephone No.: 2526-6366) if any government officers or their agents solicits an advantage from you in relation to this application.”

Personal Data Privacy Statement

1. The personal data provided by means of this form will be used by the Government for the following purposes:

- (a) activities relating to the processing of the submission in this form;
- (b) activities relating to the requirements stipulated in the District Cooling Services Ordinance; and
- (c) facilitating communication between the Government and yourself.

Classes of Transferees

2. Upon receipt of your information submission, all personal data collected in this form and all documents submitted along with this form will be kept at the Electrical and Mechanical Services Department and will be disclosed to the data users of the department.

3. The data collected and used by us may be transferred to agents and related companies for the purpose of offering services and products that may require.

Access to Personal Data

4. You have a right of access and correction with respect to personal data as provided for in sections 18 and 22, and Principle 6 of Schedule 1 of the Personal Data (Privacy) Ordinance. Your right of access includes the right to obtain a copy of your personal data provided by this form.

5. Enquiries concerning the personal data collected by means of this form, including the making of access and correction, should be submitted in writing and addressed to the Director of Electrical and Mechanical Services, Electrical and Mechanical Services Department, 3 Kai Shing Street, Kowloon, Hong Kong. For other general enquiries, please dial the Citizen's Easy Link 1823.