Circular Letter No.: 2018.148

Issue Date: 14 May 2018

Application: BEAM Plus NB Version 1.1 & 1.2

Effective Date: 14 May 2018

EU 1 Reduction of CO_2 Emissions and EU 2 Peak Electricity Demand Reduction

The Circular Letter announces the following requirements for development adopting district cooling system (DCS) [1].

1. **The baseline air-conditioning system setting as stipulated in Table 8.0 in Technical Circular No. 2014.122 is no longer applicable for developments adopting DCS as air-conditioning system.**

2. For developments adopting DCS as air-conditioning system, the Applicant shall model the system and equipment for the baseline and designed cases as described in the following table:

	Baseline Case	Designed Case
Cooling Capacity	Auto-size based on the building's configuration.	
Cooling Generation	For buildings with air conditioned floor area less than 20,000sqm – 2 water-cooled screw chillers sized equally, with Coefficient of Performance (COP) according to BEC or equivalent standards. For buildings with air conditioned floor area equal to or more than 20,000sqm – 2 water cooled centrifugal chillers minimum with chillers added so that no chiller is larger than 2,800 kW, all sized equally, with COP according to BEC or equivalent standards.	DCS with an overall plant annual average COP obtained from the representative of the DCS [2], including cooling generation, heat rejection equipment, DCS chilled water pumps and condensing water pumps.

[1] District cooling system (DCS) means a system in which chilled water is supplied from one or more central chiller plants to user buildings within the area served by the system through a network of pipes for serving air conditioning in the buildings.

[2] Representative of the DCS means a person who owns, manages, operates and maintains the DCS.

	Baseline Case	Designed Case
Heat Rejection Equipment	Dedicated cooling tower for each chiller set, with the water flow per unit tower fan motor nameplate power following the criteria specified under clause 6.12.4 of BEC 2015 or equivalent standards.	
Condensing Water Pumps	Auto-size according to cooling capacity and Follow the criteria specified under ASHRAE Standard 90.1 Section G3.1.3.11 or equivalent standards.	
DCS Chilled Water Pumps	Auto-size according to cooling capacity and Follow the criteria specified under ASHRAE Standard 90.1 Section G3.1.3.10 or equivalent standards.	
Consumer-side Chilled Water Pumps		As design.
Chilled Water Operating Condition	Follow the criteria of chilled water temperature for water-cooled system under Table 6.12b of BEC.	Obtained from the representative of the DCS.
Condensing Water Operating Condition	Follow the criteria of condensing fresh water temperature for water-cooled system under Table 6.12b of BEC.	*Not Applicable*
Fan Motor Power for An Air-Conditioned Space	Constant air volume (CAV) distribution system: 1.6W/L/s and/or Variable air volume (VAV) distribution system: 2.1W/L/s	As design[3]

3. The configuration of the major DCS in Hong Kong is provided in Appendix A of this Technical Circular. If a prescribed development is within the area served by the DCS mentioned in Appendix A, the Applicant may adopt the specified configuration in Appendix A for the designed case in lieu of adopting the configuration obtained from the representative of the DCS.

4. The Technical Review Committee will honour the DCS configuration adopted at the time of the initial round of submission[4]. Any amendments to the DCS configuration made during the subsequent rounds of submission shall not be considered.

[3] The air distribution system fan power shall observe the requirement stipulated in clause 6.7.1 – 6.7.3 of the Building Energy Code (BEC) 2015 and clause 6.7 of the Technical Guidelines on Code of Practice for Energy Efficiency of Building Services Installation 2015 (TG-BEC 2015).

[4] Initial round of submission refers to the first submission made either for Provisional Assessment or Final Assessment.

5. All data in Appendix A will be updated as and when necessary to reflect on the latest operating condition of the DCS and without any prior notice.

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Mr KM So
Chairperson of Standards Sub-committee

Appendix A: Configuration of The Major DCS In Hong Kong
(Last Updated: 3 May 2018)

Name of District Cooling System	Representative of the DCS	DCS Overall Plant Annual Average COP #	Chilled Water Operating Condition	Date of Last Updated
Kai Tak District Cooling System	Electrical and Mechanical Services Department	5.5	DCS Supply Side: • Supply Temperature = 5°C ± 1°C • Return Temperature = 13°C Consumer Side • Supply Temperature = 6°C ± 1°C • Return Temperature = 14°C	3 May 2018

"DCS Overall Plant Annual Average COP" refers to the annual average COP of the DCS Plant, including cooling generation, heat rejection equipment, DCS chilled water pumps and condensing water pumps.