

**Fresh Water Cooling Towers Scheme for Air Conditioning Systems**

**Cooling Tower Installation Details**

Date: \_\_\_\_\_

**1. General:**

Cooling Tower Registration No.: PS- \_\_\_\_\_ *(to be filled in by EMSD)*

Building name: \_\_\_\_\_

Building address: \_\_\_\_\_

Owner's cooling tower ref. no.: \_\_\_\_\_

**2. Cooling tower design details:**

*(If the cooling towers installed / to be installed have different details, please provide the information by duplicating this paragraph)*

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Physical dimension (mm): \_\_\_\_\_ Operating weight (kg): \_\_\_\_\_

Type: \*Induced draught / \*Forced draught / \*Cross flow / \*Counter flow / \*Evaporative condenser

Fan input power: \_\_\_\_\_ kW Sound power level of fan: \_\_\_\_\_ dB(A)

Cooling water circulation rate: \_\_\_\_\_ L/s Air flow rate: \_\_\_\_\_ L/s

Average bleed-off water rate: \_\_\_\_\_ L/s Average evaporation rate: \_\_\_\_\_ L/s

Average drift rate: \_\_\_\_\_ L/s Average make-up water rate: \_\_\_\_\_ L/s

**3. Cooling tower installed location:**

Installed location: \*Roof / Podium / Indoor / Other (please state) \_\_\_\_\_

		Direct separation	Horizontal separation
(a) Any critical air intake / exhaust <sup>1</sup> or operable window nearest to cooling tower(s): *Yes / No	Outdoor air intake	_____ m	_____ m
	Exhaust air outlet	_____ m	_____ m
	Operable window	_____ m	_____ m
(b) Any public access or pedestrian thoroughfares near the cooling tower exhaust: *Yes / No	Areas of public access	_____ m	_____ m
	Pedestrian thoroughfares	_____ m	_____ m

<sup>1</sup> Critical outdoor air intake refers to fresh air intakes of the building air conditioning systems (e.g. PAU, AHU, lift vent) or any air intake that draws fresh air into the building. Critical exhaust air outlet refers to kitchen exhaust, toilet exhaust, carpark exhaust or any exhaust outlet of which the emitted air can contaminate the cooling water or pollute the cooling air.

\* delete as appropriate

4. Reuse of bleed-off water for flushing purpose: (It is a mandatory requirement to reuse the bleed-off water for flushing purposes. If the bleed-off water is not reused for flushing purpose or there is other discharge arrangement other than reusing for flushing, please specify the discharge arrangement and state the reason(s) in a separate sheet.)

Estimated peak daily bleed-off volume: \_\_\_\_\_ m<sup>3</sup> Estimated peak daily demand for flushing: \_\_\_\_\_ m<sup>3</sup>

Break tank retention volume: \_\_\_\_\_ OR Reserved volume in existing flushing tank: \_\_\_\_\_ m<sup>3</sup>

5. Noise emitted from cooling tower installation:

Area Sensitivity Ratings: \*A / \*B / \*C (Referring to the sections 2.3.2 and 2.3.3 of the technical memorandum under Noise Control Ordinance (Cap 400))

	<u>Day</u>	<u>Evening</u>	<u>Night</u>
Acceptable Noise Level in the area:	_____ dB(A)	_____ dB(A)	_____ dB(A)

Estimated noise level at the nearest NSR:	_____ dB(A)	_____ dB(A)	_____ dB(A)
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Building type of nearest NSR: \*Residential / Commercial / Other (please specify) \_\_\_\_\_

6. Water Treatment:

Chemical treatment:

	<u>Type 1</u>	<u>Type 2</u>	<u>Type 3</u>
Chemical / Trade name:	_____	_____	_____
Dosing method:	*Automatic / Manual	*Automatic / Manual	*Automatic / Manual

Physical treatment:

Treatment method:	_____	_____	_____
Equipment installed:	_____	_____	_____

Check list of document and information to be submitted together with Form CT1B

- Site and location plan of the premises / building(s) and noise sensitive receiver(s)
- Drawing(s) with plan(s) and section(s) to legibly show the proposed cooling tower installation(s), nearest critical window opening, outdoor air intake and exhaust air outlet (see footnotes of Page 1) and their separation distances from cooling towers, and access for inspection and cleaning of cooling towers.
- Piping schematic diagram for the condensing water system which includes to show water treatment arrangement for the cooling towers, arrangements for the re-use of bleed-off water, and water sampling point(s) for testing.
- Technical information of cooling tower(s) and drift test report
- Programmes of routine chemical treatment, inspection of cooling tower(s) and cleaning, desludging and disinfection of cooling tower(s)