

Scheme for Wider Use of Fresh Water in
Evaporative Cooling Towers for Energy-efficient Air Conditioning Systems
Cooling Tower Installation Details

Date: _____

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

Building name: _____

Building address: _____

Owner's cooling tower ref. no.: _____

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 _____

Type of cooling tower fan: *propeller / *aerofoil / *centrifugal / *axial / other _____

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

Cooling tower installed location:

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

Any air intake / exhaust of vital importance¹ or operable window nearest to cooling tower(s): *Yes / No

▶ If yes, Outdoor air intake Direct separation: _____ m Horizontal separation: _____ m

▶ If yes, Exhaust air outlet Direct separation: _____ m Horizontal separation: _____ m

▶ If yes, Operable window Direct separation: _____ m Horizontal separation: _____ m

Any areas of public access or pedestrian thoroughfares near cooling tower exhaust: *Yes / No

▶ If yes, Areas of public access Direct separation: _____ m Horizontal separation: _____ m

▶ If yes, Pedestrian thoroughfares Direct separation: _____ m Horizontal separation: _____ m

¹ Outdoor air intake of vital importance 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. Exhaust air outlet of vital importance 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

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: _____ m³ Estimated peak daily demand for flushing: _____ m³

Break tank retention volume: _____ OR Reserved volume in existing flushing tank: _____ m³

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) _____

Water Treatment:

- Chemical treatment: *(Residual concentration in cooling water (in ppm), monthly dosing frequency and monthly consumption of chemicals should be stated in the Water Treatment Programme submitted)*

	<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 EMSD EE 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 window opening, outdoor air intake and exhaust air outlet of vital importance (see footnotes of Page 1) and their separation distances from cooling towers *(Please note that the separation distance shall be measured from the closest point of cooling tower exhaust to the closest point of operable window / outdoor air intake; and from the closest point of cooling tower intake to the closest point of exhaust air outlet.)*
- Schematic diagram of the system(s) including the related plumbing and drainage arrangements for the re-use of bleed-off water
- 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)
- Drawing(s) to show the location of water sampling point(s) for testing Total Bacteria Count, Legionella and other water quality parameters (to be indicated on schematic diagram(s) and installation plan(s))