Form EMSD EE CT3

Fresh Water Cooling Towers Scheme

Summary of Operational Information for Cooling Tower Installation

(Records kept by Owners of Cooling Towers)

Date: _____

Part A

Operational information of the cooling towers for the month of_____in Year_____

Building name and address of cooling towers: _____

_____

1. Operational information of cooling towers and water sampling results of the above month are summarized in Part B of this Form.
2. This is also to record that
   (a) The cooling tower shell is in *good/ fair/ bad condition.
   (b) The supporting framework of the cooling tower shell is in *good/ fair/ bad condition.
   (c) The maintenance carried out for each cooling tower of the installation has been recorded according to the requirements of the Scheme document.

   (*Remark: If the cooling tower shell and/ or the supporting framework for the cooling tower is/ are in bad condition, please use a separate sheet to describe details and planned action if any*):

Signature of Owner or his Representative: _____

Full Name of Owner or his Representative:	Company Chop:
Company:	
Tel No.: Fax No.:	
Email:	
Correspondence Address:	
Date:	

Part B

Operational Information of cooling towers (for Month:_____ Year:_____):

EMSD Cooling tower registration no.:	PS-	
Owner's cooling tower ref. no.:		
Daily operating time:	from to	
Energy consumption for all water-side equipment in the month:		kWh
Make-up water volume *(Total water consumption in the month)*:		m^3
Bleed-off volume *(Total bleed-off volume in the month)*:		m^3

1. Cooling water sampling results

Water sampling date: _____

Parameters	**Sampling Results**	**Cooling Water Quality Criteria**
Monthly sampling *(see Notes 1 to 4)*		
Water Temperature	℃	Optimal temperature for the system design and current operating conditions
Heterotrophic colony count	cfu/mL	Less than 100 000 cfu/mL
Conductivity	μS/cm	Less than 1 500 μS/cm
Total dissolved solids	ppm	Less than 1 000 ppm
Suspended solids	ppm	Less than 150 ppm
Calcium hardness	ppm	Less than 500 ppm as $CaCO_3$
pH		7 – 10
Residual biocide concentration (1)	mg/L	Follow manufacturers' specifications
Residual biocide concentration (2)	mg/L	
Residual inhibitor concentration (1)	mg/L	
Residual inhibitor concentration (2)	mg/L	
Quarterly sampling		
Total legionella count (see Note 1)	cfu/mL	Less than 10 cfu/mL
- Legionella pneumophila Sg1	cfu/mL	
- Legionella pneumophila Sg2-14	cfu/mL	
- Legionella other species	cfu/mL	
Chloride as mg/L (Cl)	mg/L	Less than 200 mg/L
Sulphate as mg/L (SO_4)	mg/L	Less than 200 mg/L
Total iron as mg/L (Fe)	mg/L	Less than 1.0 mg/L
Total alkalinity	ppm	80 – 500 ppm as $CaCO_3$

2. Bleed-off water sampling results

Water sampling date: _____

Parameters	Sampling Results	Bleed-off Water Quality Criteria
Quarterly sampling *(see Note 5)*		
Colour (H.U.)	H.U.	Less than 40 H.U.
Turbidity (N.T.U.)	N.T.U.	Less than 20 N.T.U
Threshold Odour No. (T.O.N.)	T.O.N.	Less than 100 T.O.N.
Ammoniacal Nitrogen	mg/L	Less than 1 mg/L
Suspended Solids	mg/L	Less than 20 mg/L
Dissolved Oxygen	mg/L	Larger than 2 mg/L
5-day Biochemical Oxygen Demand	mg/L	Less than 10 mg/L
Chemical Oxygen Demand (COD)*	mg/L	Refer to EPD's Technical Memorandum on Standards for Effluent Discharged into Drainage and Sewerage Systems, Inland and Costal Waters
Synthetic Detergents	mg/L	Less than 5 mg/L
E. Coli	cfu/100mL	Less than 5 000 cfu/100mL

3. Temporary Shut-down of Cooling Tower (if applicable)

Cooling towers to be shut-down	EMSD Registration No.: PS-		
Date of Temporary Shut-down: (dd/mm/yyyy)	From		*a.m./ p.m.
	To		*a.m./ p.m.
Action taken, either (a) or (b):			
(a) kept full of treated water and circulated once a week:	*Yes / No		
(b) fully drain off the system water and dry the system by mechanical fan, and then cover and shut off the inlet and outlet pipes leading to the cooling tower(s):	*Yes / No		

Note 1: HCC should be tested every month and legionella should be tested every three (3) months unless otherwise required for validation of the effectiveness of water treatment. Water sampling for cooling tower systems installed at medical and health care premises should be carried out at least once a month for both HCC and legionella tests.
Note 2: HCC and legionella should be tested in accordance with the current edition of APHA 9215B and AS3896 respectively or equivalent.
Note 3: Copies of the laboratory test reports on HCC and legionella should be accompanied with this form.
Note 4: Cooling water samples should be tested every month unless otherwise required.
Note 5: Bleed-off water samples should be tested every three (3) months unless otherwise required. The bleed-off water should be treated to achieve the Water Supplies Department's Water Quality Objectives of Sea Water for Flushing Supply (At Distribution) when necessary.

Personal Data Privacy Statement

Purpose of Personal Data Collection

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 requirements stipulated in the Fresh Water Cooling Towers Scheme; and
   c. facilitating communication between Government and yourself.

Classes of Transferees

2. Upon receipt of your information submission, all personal data that are 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 only for activities relating to the Fresh Water Cooling Towers Scheme.

Access to Personal Data

3. 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

Enquiries

4. 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 by posting to Electrical and Mechanical Services Department, 3 Kai Shing Street, Kowloon, Hong Kong, or via email info@emsd.gov.hk. For other enquiries relating to the Fresh Water Cooling Towers Scheme, please call 3912 0642 or contact the 1823 Call Centre.

Prevention of Bribery

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.