



水務署
Water Supplies Department

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Distribution: To all Licensed Plumbers

Dear Sir,

WSD Circular Letter No. 1/2014
Preventing Unauthorized Use of Mains Water for
Fresh Water Cooling Towers

The two most commonly used air conditioning systems in Hong Kong are the water-cooled air conditioning system and the air-cooled air conditioning system. The former type generally adopts the use of fresh water cooling towers (FWCT).

2. In the design and installation of the FWCT and the making of the associated water supply connection, the contractors are required to comply with the “Code of Practice for Water-Cooled Air Conditioning Systems” of the Electrical and Mechanical Services Department (EMSD) and the requirements of the Water Supplies Department (WSD) respectively. The relevant minimum requirements are given in the **Annex** to this letter are aimed to mitigate the risk of spreading of the Legionnaires’ disease and to fulfill the provisions of the “Waterworks Ordinance”. Prior to installation of the FWCT, the contractors should apply for participation in the “Fresh Water Cooling Towers Scheme for Air Conditioning Systems” (the Scheme) operated by the EMSD. If the design of the FWCT meets the prescribed requirements, the EMSD will accept the FWCT into the Scheme and notify the WSD accordingly for processing the application for supply of water to the FWCT. The contractors should also advise their clients to ensure compliance with all other relevant legislative requirements, e.g. the provisions of the “Buildings Ordinance” regarding structural support of the FWCT.

3. The water-cooled air conditioning systems are generally more energy efficient than the air-cooled air conditioning systems. However, due to the crowded environment in Hong Kong, not all the premises are suitable for the installation of FWCT that can fully comply with the five minimum requirements of the EMSD. In this circumstance, the WSD will not permit the use of mains water for supply to the FWCT. Any person who constructs an inside service for supply of mains water to the FWCT without the permission of the WSD is in contravention of Section 14(1) of the “Waterworks Ordinance”. Also, any consumer who uses mains water for supply to the FWCT without prior permission of the WSD is in contravention of Regulation 13(a) of the “Waterworks Regulations”. The WSD will consider taking prosecution action against the offender and may disconnect water supply to the unauthorized FWCT. The disconnection of water supply will affect the daily operation of the business owner and it will possibly result in loss exceeding the saving in electricity expense obtained from the use of the unauthorized FWCT.

4. As the major stakeholders in the water supply industry, the Licensed Plumbers are often invited to participate in connecting mains water for supply to the FWCT and to offer professional advice or assistance to the clients on such matters. The Licensed Plumbers are thus reminded not to illegally connect mains water for supply to the FWCT if they cannot fully comply with the relevant requirements. The Licensed Plumbers should, instead, advise their clients to adopt the use of other suitable types of air conditioning systems to avoid contravening the governing legislation. With the support of the Licensed Plumbers and their professional advice given to the owners and users of air conditioning systems, we should be able to effectively reduce the number of unauthorized FWCT in Hong Kong and mitigate their potential health impact.

Yours faithfully,

Original signed

(LAM Ching Man)
for Water Authority

Encl.

c.c. Hong Kong Licensed Plumbers Association Ltd.
Hong Kong Plumbing and Sanitary Ware Trade Association Ltd.
Hong Kong Water Works Professionals Association Ltd.
The Chartered Institute of Plumbing and Heating Engineering – Hong Kong Branch
The Hong Kong Institute of Plumbing and Drainage Ltd.
Plumbing Technology Student Association
Hong Kong Plumbing General Union
Electrical and Mechanical Services Department
Buildings Department
WSD 3318/15/81

Annex

A. Design and Installation of Fresh Water Cooling Towers shall comply with the following five minimum requirements of the Electrical and Mechanical Services Department. For details of other requirements, please refer to “Code of Practice for Water-Cooled Air Conditioning Systems”.

- (1) Cooling towers shall be distant from:
 - (i) the surrounding air intakes and exhausts and operable windows, other than those stated in (ii) below, with minimum 7.5 m horizontal separation;
 - (ii) for the cooling tower within 7.5 m from its own building façade boundary, air intakes and exhausts and operable windows on its vertical building façade by minimum 7.5 m below or 20 m above;
 - (iii) pedestrian thoroughfare and area of public access by minimum 7.5m.
- (2) Cooling towers shall be provided with effective drift eliminators (with drift emission not more than 0.005% of maximum design water circulation rate) that minimize the formation and release of drift;
- (3) Cooling towers shall be provided with effective water treatment equipment and bleed-off device to control bacterial growth. Bleed-off water from cooling towers shall be discharged to a flushing tank (via a break tank if applicable) and reused for flushing purpose as far as practicable.
- (4) Dead legs shall be minimized to avoid stagnant water as far as practicable in the cooling water circulation pipeworks for the cooling tower, and, where unavoidable, purge valves should be provided to the dead legs for regular draining.
- (5) Cooling towers shall be provided with adequate and safe access to allow for the maintenance, inspection and water sampling required under the Scheme.

B. The connection of mains water from the waterworks to the fresh water cooling tower shall comply with the following requirements of the Water Supplies Department. For details of other requirements, please refer to the “Waterworks Ordinance”, “Waterworks Regulations” and other relevant provisions.

- (1) Separate metering is required for connecting the mains water supply from the waterworks through the inside service to the fresh water cooling tower.
- (2) There is no wastage or highly probable wastage of fresh water supply occurring in the fresh water cooling tower and the associated inside service.
- (3) Break tank shall be provided to separate the fresh water cooling tower from the inside service to avoid pollution of the waterworks supply.