

**Addendum No. 01/2018**

**增編第 01/2018 號**

**Addendum for Code of Practice for Prevention of Legionnaires' Disease (2016 Edition)**

**預防退伍軍人病工作守則(2016 年版)的增編**

Note: The **amendment** is bolded and underlined for easy reference.

註: 為方便閱讀, **修改部分**會以粗體顯示及加上底線。

<b>Clause 段落</b>	<b>Page 頁數</b>	<b>Amended clause 修改段落</b>
2.2	1	<b><u>English Edition</u></b> The bacteria that cause LD are small coccobacilli measuring up to 0.5µm by 1-3µm, with occasional longer forms of 10-15µm or more, within the genus legionellae. Over <b><u>50</u></b> species of legionellae have been identified and the <i>Legionella pneumophila</i> serogroup 1 is most commonly responsible for LD outbreaks.
	1	<b><u>中文版</u></b> 引致退伍軍人病的細菌是球桿菌, 其體形細小, 大約 0.5 微米乘 1 至 3 微米, 其中有些會較長, 有 10 至 15 微米或更長, 屬於退伍軍人桿菌菌種。就退伍軍人桿菌而言, 現時確知的品種超過 <b><u>50</u></b> 個, 而最常引致退伍軍人病爆發的是嗜肺性退伍軍人桿菌血清 1 型。
3.1	2	<b><u>English Edition</u></b> Following the outbreak of LD in 1985 at Stafford District General Hospital, UK, the Prevention of Legionnaires' Disease Committee was set up in Hong Kong <b><u>in the same year</u></b> . The Committee initially comprised members from the then Works Bureau, the Department of Health, the Electrical & Mechanical Services Department, the Architectural Services Department, the Water Supplies Department, the University of Hong Kong and the Chinese University of Hong Kong.
	2	<b><u>中文版</u></b> 1985 年英國的斯塔福郡區綜合醫院爆發退伍軍人病後, 香港隨即 <b><u>於同年</u></b> 成立預防退伍軍人病委員會。委員包括前工務局、衛生署、機電工程署、建築署、水務署、香港大學及香港中文大學。

Clause 段落	Page 頁數	Amended clause 修改段落
4.2.1 (a)	4	<u>English Edition</u> (no amendment for English edition)
	4	<u>中文版</u> 冷卻塔應裝設於遠離建築物或空調系統鮮風進氣口、可操作的窗戶、排氣系統出風口及公眾通道的位置。冷卻塔與上述裝置／地點的最小分隔距離載於最新版本的《淡水冷卻塔實務守則 – 第一部：設計、安裝及 <u>調試</u> 》。
4.2.2.3(b)(ii)	7	<u>English Edition</u> (ii) shut down for a prolonged time, say more than <b><u>1 week</u></b> .
	6	<u>中文版</u> (ii) 長時間停用，例如超過 <u>一星期</u> 。
4.4.1.1(a)	10	<p><u>English Edition</u></p> <p>The hot water storage device of the system (e.g. direct or indirect heated calorifier, storage vessel, etc.) should be designed to operate at 60°C or above to effectively kill the bacteria. <b><u>The water reaching the thermostatic mixing valve or the tap outlet (for systems without mixing valve) should be at least 50°C within one minute of running the water or at least 55°C <sup>2</sup> in healthcare premises (such as hospitals) within one minute of running the water.</u></b></p> <p><sup>2</sup> Ref.: Para 4.3.31.2.2.3 of BS 8558:2015, <b><u>Para 2.156 of HSG274: Legionnaires' disease – Technical guidance Part 2 and Para 10.5 of Health Technical Memorandum 04-01: Safe water in healthcare premises (Part A: Design, installation and commissioning).</u></b></p>

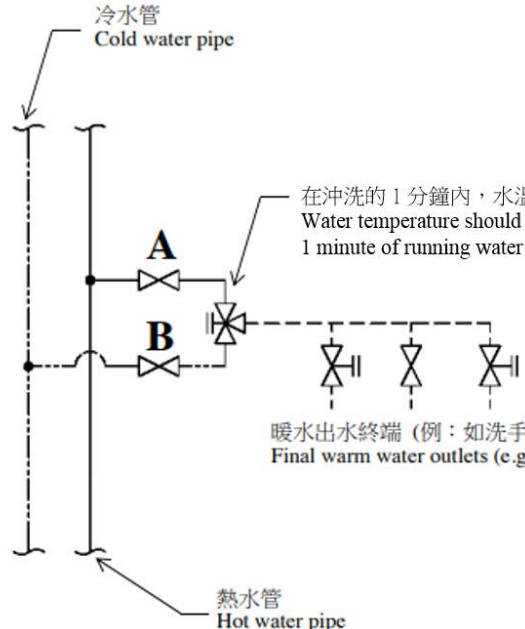
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	9	<p><u>中文版</u></p> <p>系統的熱水貯存裝置（例如直接或間接加熱的加熱器、貯存容器等）操作溫度應設定在攝氏 60 度或以上，以便能有效殺滅細菌。<u>而水到達恆溫混合閥或水龍頭出水口（在沒有混合閥的系統）在沖洗的一分鐘內，都必須至少保持在攝氏 50 度或於醫療地方（如醫院），熱水龍頭出水口在沖洗的一分鐘內，必須保持在攝氏 55 度<sup>2</sup>。</u></p> <p><sup>2</sup> 參考資料.: BS 8558:2015 第 4.3.31.2.2.3 段, <u>HSG274: Legionnaires' disease – Technical guidance Part 2 第 2.156 段, Health Technical Memorandum 04-01: Safe water in healthcare premises (Part A: Design, installation and commissioning) 第 10.5 段.</u></p>
4.4.1.2 (b)	12	<p><u>English Edition</u> (no amendment for English edition)</p>
	10	<p><u>中文版</u></p> <p><b>(b)</b> 應定期清潔及排走熱水貯存裝置內的水，以避免裝置受到污染及防止污泥、黏泥、海藻、真菌、鐵銹、水垢、塵埃、污垢及其他外來物積聚。清潔次數的多寡應視乎沉積物積聚的速度而定，有關速度主要取決於水源的水質。在正常情況下，應至少每年清潔一次。</p>
4.4.1.2(e)(iv)	12	<p><u>English Edition</u> Strainers in water taps and shower heads should be <b><u>inspected, cleaned, descaled and disinfected regularly or on a frequency defined by the proper risk evaluation, taking account of the manufacturer's recommendations; and</u></b></p>
	11	<p><u>中文版</u></p> <p><u>應參考製造商的建議，定期或按詳細風險評估所釐定的次數，為水龍頭及花灑頭的隔濾器進行檢查、清潔、除垢及消毒；以及</u></p>

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4.5.1 (f)	14	<p><u>English Edition</u></p> <p>New piping system and fresh water storage tanks are recommended to follow WSD's current guidelines on cleansing and disinfection. Details of WSD's guidelines are available at the following:</p> <p><b><u><a href="https://www.wsd.gov.hk/filemanager/article/en/upload/283/cir0212.pdf">https://www.wsd.gov.hk/filemanager/article/en/upload/283/cir0212.pdf</a></u></b></p> <p>(WSD's guidelines on cleansing and disinfection of fresh water inside service)</p> <p><b><u><a href="https://www.wsd.gov.hk/en/faqs/index.html#12-205">https://www.wsd.gov.hk/en/faqs/index.html#12-205</a></u></b></p> <p>(WSD's guidelines for cleansing of fresh water tanks)</p>
	12	<p><u>中文版</u></p> <p>建議按照水務署的現行指引為新安裝的喉管系統和食水貯存缸進行清洗及消毒。該指引可從下述網址下載：</p> <p><b><u><a href="https://www.wsd.gov.hk/filemanager/article/sc/upload/283/cir0212c.pdf">https://www.wsd.gov.hk/filemanager/article/sc/upload/283/cir0212c.pdf</a></u></b></p> <p>(水務署的《內部食水供水系統的清潔及消毒指引》)</p> <p><b><u><a href="https://www.wsd.gov.hk/tc/faqs/index.html#12-205">https://www.wsd.gov.hk/tc/faqs/index.html#12-205</a></u></b></p> <p>(水務署的《清洗食水水箱指引》)</p>
4.5.2 (a)	14	<p><u>English Edition</u></p> <p>Fresh water storage tanks should be drained and cleaned regularly to avoid contamination, sludge, slime, algae, fungi, rust, scale, dust, dirt and other foreign materials. The tanks are recommended to follow WSD's current guidelines on cleaning and disinfection. The frequency of cleaning of fresh water storage tanks should be at least on a quarterly basis, or more frequent depending on the level of corrosion, sludge and sediment experienced. Details of WSD's guidelines are available at the following:</p> <p><b><u><a href="https://www.wsd.gov.hk/en/faqs/index.html#12-205">https://www.wsd.gov.hk/en/faqs/index.html#12-205</a></u></b></p> <p>(WSD's guidelines for cleansing of fresh water tanks)</p>

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	12	<p><u>中文版</u></p> <p>應定期清潔及排走食水貯存缸內的水，以避免貯存缸受到污染及防止污泥、黏泥、海藻、真菌、鐵銹、水垢、塵埃、污垢及其他外來物積聚。建議按照水務署的現行指引為貯存缸進行清潔及消毒。應至少每三個月清洗貯水缸一次，但亦可視乎腐蝕程度，以及污泥和沉積物的多寡加密清潔次數。水務署的指引可從下列網址下載：</p> <p><b><u><a href="https://www.wsd.gov.hk/tc/faqs/index.html#12-205">https://www.wsd.gov.hk/tc/faqs/index.html#12-205</a></u></b> (水務署的《清洗食水水箱指引》)</p>
4.5.2(f)	14	<p><u>English Edition</u></p> <p>Strainers in water taps and shower heads should be <b><u>inspected, cleaned, descaled and disinfected regularly or on a frequency defined by the proper risk evaluation, taking account of the manufacturer's recommendations.</u></b></p>
	13	<p><u>中文版</u></p> <p><u>應參考製造商的建議，定期或按詳細風險評估所釐定的次數，為水龍頭及花灑頭的隔濾器進行檢查、清潔、除垢及消毒。</u></p>
4.7	15	<p><u>English Edition (Title)</u></p> <p><b><u>Spa Pool System</u></b></p>
	13	<p><u>中文版 (標題)</u></p> <p><b><u>按摩浴池系統</u></b></p>

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4.7.1	15	<p><u>English Edition</u></p> <p>General</p> <p><b><u>A spa pool is a self-contained body of warm, agitated water designed for sitting or lying in and not for swimming or total body immersion. Spa pools contain water heated usually between 30–40 °C, which is filtered and chemically disinfected. They have air-jet circulation with or without air-induction bubbles and can be sited indoors or outdoors. Such systems have the ability to produce aerosols by means of air jets or similar devices. A spa pool is usually drained, cleaned or refilled after a number of bathers or a maximum period of time rather than after each bather.</u></b> A schematic diagram of a typical spa pool system is shown in Figure 9.</p>
	13	<p><u>中文版</u></p> <p>概論</p> <p><b><u>按摩浴池是獨立浴池，池水溫暖而被攪動，供使用者坐在或躺在其中，但並非供游泳或全身浸泡用。按摩浴池內的水一般會加熱至攝氏 30 至 40 度，並經過過濾及化學消毒。按摩浴池可坐落於室內或室外，並設有導入氣泡或不導入氣泡的噴氣循環。透過空氣噴嘴或類似裝置，該等系統能產生霧氣。按摩浴池通常是在眾多使用者使用後或使用時間達到上限後排走池水、進行清潔或重新注水，而不是在使用者每次使用後便進行這些工作。典型按摩浴池系統示意圖載於圖 9。</u></b></p>
4.7.3(f)	16	<p><u>English Edition</u></p> <p><b><u>Accessible pipework and jets should be inspected weekly and cleaned as necessary.</u></b></p>
	14	<p><u>中文版</u></p> <p><b><u>可觸及的喉管及噴嘴應每星期予以檢查，並按需要進行清潔。</u></b></p>
4.7.4	16	<p><u>English Edition</u></p> <p>Whirlpool Baths</p> <p>Whirlpool bath water is normally untreated and is <b><u>intended to be filled and emptied after each use. Whirlpool baths have the potential for similar problems to spa pools, such as the formation of biofilms within the pipework system associated with the air and/or water booster jets, and should be regularly disinfected.</u></b></p>

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	14	<p>中文版</p> <p>按摩池浴缸</p> <p>按摩池浴缸的水通常未經處理，並會於每次使用時注入及在使用後排清。<u>按摩池浴缸可能會出現與按摩浴池相似的問題，例如配有空氣或水壓噴嘴的喉管內形成生物膜，因此按摩池浴缸應定期消毒。</u></p>
4.8.1	17	<p>English Edition</p> <p>Dental equipment, misting devices for fruit and vegetable display cabinets in retail outlets, <b>ice making machine</b>, swimming pools, vehicle washers, <b>high velocity water jet</b>, emergency showers and eye wash sprays and respiratory therapy equipment are known water-using apparatus that have been suspected or confirmed in association with LD.</p>
	15	<p>中文版</p> <p>牙科設備、零售店內蔬果陳列櫃的噴霧裝置、<b>製冰機</b>、游泳池、洗車設備、<b>高速水流噴嘴</b>、緊急淋浴裝置、洗眼噴霧器及輔助呼吸治療儀器均為已知曾被懷疑或證實涉及退伍軍人病的用水器具。</p>
4.8.2	17	<p>English Edition</p> <p><b><u>The water using apparatus listed in 4.8.1 should be cleaned and disinfected in accordance with the manufacturer's recommendations or manufacturer's advice after due consultation.</u></b> The water in use <b><u>can be sterilised /distilled/boiled water to suit the applications in order to control bacterial growth, scale formation and to remove silt, dirt, sludge etc.</u></b></p>
	15	<p>中文版</p> <p>第 4.8.1 段所列的用水器具應按照製造商的建議或詳細諮詢製造商後所得的意見，進行清潔及消毒。器具所使用的水可因應器具需要而使用無菌／蒸餾／煮沸的水，以控制細菌滋長和水垢形成，以及清除淤泥、污垢和污泥等。</p>

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Figure 8 圖 8	A-10	<p style="text-align: center;"><b>FIGURE 8 圖 8</b></p> <p style="text-align: center;"><b>Thermostatic Mixing Valve</b> <b>恆溫混合閥</b></p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;">  </div> <div style="width: 35%;"> <p><b>圖例 Legends:</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 20px; border-bottom: 1px solid black; margin-right: 5px;"></span> 熱水喉管 Hot water pipework</li> <li><span style="display: inline-block; width: 20px; border-bottom: 1px dashed black; margin-right: 5px;"></span> 冷水喉管 Cold water pipework</li> <li><span style="display: inline-block; width: 20px; border-bottom: 1px dash-dot black; margin-right: 5px;"></span> 暖水喉管 Warm water pipework</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> 閥門 Valve</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> 出水口 Water Outlets</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> 恆溫混合閥 Thermostatic mixing valve</li> </ul> </div> </div> <p style="text-align: center;">在沖洗的 1 分鐘內，水溫至少保持在 50°C / 55°C Water temperature should be at least 50°C / 55°C within 1 minute of running water</p> <p style="text-align: center;">暖水出水終端 (例：如洗手盤、花灑頭等) Final warm water outlets (e.g. wash basin, shower heads, etc.)</p> <p><b>註 Notes:</b></p> <ol style="list-style-type: none"> <li>1. 在正常情況下閥門 A 及閥門 B 應該開啟。當恆溫混合閥進行例行故障保險測試時，應把閥門 B 關掉。 Valves A and B shall be turned on normally. Valve B should be shut off for routine fail-safe test of the thermostatic mixing valve.</li> <li>2. 每個恆溫混合閥可供接駁的暖水出水終端數目上限，應遵循製造商所作的建議。 Maximum no. of final warm water outlets to be supplied by each thermostatic mixing valve shall follow the recommendation of the manufacturer.</li> <li>3. 恆溫混合閥應盡量安裝在靠近暖水出水終端的位置。 Thermostatic mixing valve should be installed as near to the final warm water outlets as possible.</li> </ol>



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		<p>4. 作為一種安全措施而言，理想出水溫度於暖水出水終端應由恆溫混合閥調節。</p> <p>The desirable outlet temperature at water fitting is regulated by thermostatic mixing valve as a safety measure.</p> <p>5. <u>水到達恆溫混合閥或水龍頭出水口（在沒有混合閥的系統）在沖洗的一分鐘內，都必須至少保持在攝氏 50 度或於醫療地方（如醫院），熱水龍頭出水口在沖洗的一分鐘內，必須保持在攝氏 55 度。</u></p> <p><b><u>The water reaching the thermostatic mixing valve or the tap outlet (for systems without mixing valve) should be at least 50°C within one minute of running the water or at least 55°C in healthcare premises (such as hospitals) within one minute of running the water.</u></b></p>