


Sr Phyllis So
Sr Samson Wong

Leading to a Lead-free Water Supply

adopting a labelling system similar to that for food packaging is among the many ideas suggested for avoiding a repeat of last year's high-profile lead-contamination water supply scandal.

Wilson Lau

Residents of Kai Ching Estate in Kai Tak stock up with water from a fire hydrant after drinking water was found to be tainted with lead. Photo source : SCMP

Concerns over the safety of drinking water were raised last summer by the media's exposure of excessive levels of lead in water samples taken from several public housing estates. The ensuing scandal focused public attention on the Housing Department's supervision of construction projects, as well as placed the role of the professional staff, contractors and licensed plumber involved under scrutiny.

In late October, the Task Force on the Investigation of Excessive Lead Content in Drinking Water submitted its final investigation to the Secretary for Development, Mr Paul Chan. The report concluded that excess lead in drinking water in Kai Ching Estate and Kwai Luen Estate Phase 2 was caused by the use of leaded soldering materials in the solder joints. To prevent a recurrence of such incidents, the Task Force made a number of recommendations to prevent the use of leaded soldering materials and non-conforming pipes and fittings. It also recommended that the Water Authority explore the use of piping materials that did not use lead soldering joints in its plumbing works, that the relevant legislation be reviewed, and that the Housing Authority (HA) consider adopting a central procurement system for soldering materials. Chan said the Development Bureau agreed with the report's findings and would actively study and follow up on the recommendations.

Another recommendation in the report was that the contractors involved in the scandal should be barred from taking part in tenders for future government projects for up to nine months. Sr Samson Wong, a past President of HKIS, building surveyor, member of the HKIS's Property and Facility Management Division, and chairman of project management committee thinks that this measure may have a serious impact on main contractors because they would not be allowed to bid for large projects initiated by the HA. "Those companies specialising in water plumbing systems should conduct an overhaul of their systems. The industry as a whole should enhance its awareness of this contaminated water problem."

Sr Phyllis So, a solicitor, a member of the Quantity Surveying Division and a member of the Advisory Committee on Water Resources and Quality of Water Resources, said such a move would be a regulatory action implemented by the HA based on its contractor management system. "It does not involve public law…for [the] HA, the implication is that this will not be subject to judicial review."

Using the Waterworks Ordinance as the starting point, the lead contamination occurred within the realm of "Inside Service" [CAP 102 Waterworks Ordinance]. This meant it was in the branch pipes inside the premises supplying water to individual units, so the liability lies with the consumer and agents or licenced plumbers as defined under the Waterworks Ordinance."

Because soldering materials containing lead are widely available on the market, Wong said the government should get to the root of the problem. "The current situation is similar to the industrial use of asbestos, which has been banned by law." Wong compared the situation to that for food provision, for which legislation exists to require labels on product packaging to clearly state whether some materials should not be used for certain purposes. "I think the government can first implement this through executive action and then proceed to legislation for the long term…Product package labeling

can be used as a direct warning against the application of lead-containing solder[ing] materials to drinking water pipes."

The incident has pushed the industry to update its knowledge of current building specifications. While many documents already provide such specifications, some industry insiders have neglected to gain a full understanding of their details. "The industry should pay closer attention to the latest developments in other countries, so as to update their knowledge," Wong suggested. "Lead-contaminated drinking water problems have arisen in other countries and many have taken measures to eliminate them, such as through regular tests and replacing problematic pipes with conforming ones."

Regarding the recommendation that the HA adopt the central procurement of soldering materials, Wong believes that other developers and construction companies can take this measure as a reference for their own projects and that as members of the building profession, many surveyors are involved in project management and have an overall picture of project, which they can use to provide early warnings to the industry. "It is risk management...we can help identify possible problems early. Building surveyors can also be involved in updating [people's] knowledge of changes in [the] building materials available on the market. We can also play a bigger role [during the] post-occupancy evaluation. For instance, [based on the needs of individual buildings], we can recommend regular tests and help garner feedback from residents. We can also check if [the] heavy metal content increases when new materials have been used. Many countries have implemented post-occupancy evaluations. It is vital to get feedback from residents, particularly for buildings constructed with new materials and concepts."

In terms of legislation and enforcement, the top priority for legislation has always been to build a healthy, robust system and safeguard the public. This has remained unchanged. However, Wong believes, the government needs to update the "performance specifications" by taking into account the latest industry developments and new materials available. "[It] should also enhance its knowledge management by paying closer attention to the latest developments in other countries [and] needs to put more resources into making changes in its legislation and enforcement."

It is, perhaps, surprising that the ultimate liability in the lead-tainted water scandal fell on an individual licenced plumber, rather than on a company. "Any legislative review should look at whether the company that install[ed] the plumbing system, rather than a licenced plumber – who can be just an employee – should be liable," So said.

Apart from legislation and law enforcement, Wong thinks that the government can set the standard for safety as a reference for private developers because it is responsible for many projects, such as public housing, hospitals, and community centres. "The government should take a clearly-defined leading role." The Hong Kong Waterworks Ordinance also needs updating, So added. She explained that while the ordinance focuses on the quality and safety of pipes and fittings, this does not necessarily equate to the quality of water. "Some countries have Water Quality Acts that require the responsible authority to supply 'pure and wholesome water'."

In the wake of the scandal, the Water Supplies Department has also taken action to avoid a repeat of such incidences. In December, it launched the "Quality Water Supply Scheme for Buildings – Fresh Water (Plus)" to aid in the provision of a healthy environment for water consumption and the supply of good quality water to consumers. Wong thinks the government should include a detection mechanism for Legionnaires' disease in the scheme.

"The government can also consider making it mandatory for regular tests of devices such as drinking water dispensers in schools or other public places."

Quality Water Supply Scheme for Buildings – Fresh Water (Plus)

http://www.wsd.gov.hk/en/customer_services_and_water_bills/application_for_licence_certificate/quality_water_recognition_scheme_for_buildings/index.html

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正本清「鉛」

為避免再次發生去年備受關注的食水含鉛事件，各界提出多項建議，當中包括採用類似食品包裝的標籤制度。

Wilson Lau

去年夏天，傳媒披露，有多個公共屋　食水樣本含鉛量超標，引發公眾對食水安全的憂慮。一石激起千層浪，公眾紛紛將目光轉向房署在建造項目方面的監管措施，而有關的專業人員、承建商及水喉匠在事件上的角色。

10 月底，調查食水含鉛量超標專責小組向發展局局長陳茂波提交最終調查報告，確定啟晴邨和葵聯邨第二期食水含鉛量超標是由於承建商使用了含鉛焊接物料接駁食水喉。為防止日後發生同類事故，專責小組建議了一系列措施，以防止使用含鉛錫焊物料及不符合規格的喉管裝置，並建議水務監督研究使用其他喉料以避免水務工程誤用含鉛錫焊物料和檢討相關法例，以及房屋委員會（房委會）研究採用中央採購焊接物料。陳茂波說：發展局認同調查報告的結論，並會積極研究和跟進有關建議。

報告亦建議，涉事承建商最長九個月內不得參與政府的未來項目的投標。香港測量師學會前會長、香港測量師學會物業設施管理組成員及項目管理委員會主席黃山測量師認為，該措施可能會對這些承建商產生重大經濟影響。黃山提出專門從事供水設備工程的公司應徹底檢討現有的制度，而整個業界亦應提升對本次水污染問題的認知。


Photo source : Thinkstock

律師、工料測量組成員及水資源及供水水質事務諮詢委員會成員蘇綺青測量師表示，該項舉措是房委會根據承建商的管理系統採取的監管措施。「它不涉及公共法律.....對房委會而言，這意味著承建商無法進行司法覆核。」

首先，根據《水務設施條例》，本次鉛污染發生在「內部供水系統」[《水務設施條例》第 102 章]，即處所內部向個人單位供水的分支喉管出現問題，因此，責任應由《水務設施條例》界定的用戶及代理人或持牌水喉匠承擔。

黃山表示，由於含鉛焊接物料在市場上廣泛出售，政府應查清問題的根源。「目前的情況類似在工業上使用石棉，而後者已為法律所禁止。」黃山將情況與食品供應相比較，現行法例要求產品包裝上的標籤清楚標明某些材料不應用於某些用途。「我認為，政府可先行透過行政手段實施該項規定，然後著眼長遠，促進立法..... 可利用產品包裝標籤方式，直接標示焊接食水喉管不得使用該含鉛物料。」

事件已促使業界重新了解現行樓宇規格方面的知識。儘管已有多份文件訂明相關規格，部分業內人士卻疏忽大意，未能全面了解詳情。黃山建議：「業界應密切關注其他國家的最新發展，掌握新知識。食水鉛污染在其他國家已有先例，而多國已採取定期檢測及以符合規格的喉管替換問題喉管等措施，徹底解決這方面的問題。」

黃山認為，發展商及建築公司可參考房委會採用中央採購焊接物料的建議，而身為建築業界成員，很多測量師均有參與項目管理、掌握項目的整體情況，可籍此提前向業界發出警示。「這是風險管理..... 建築測量師可盡早識別可能出現的問題，讓 [公眾] 更加了解市面出售的建築物料的變化。我們亦可在樓宇用後評估中擔當更重要的角色。例如，我們可 [因應個別樓宇的需求，] 建議進行定期檢測及協助收集住戶反饋。我們亦可在使用新物料時檢查重金屬含量有否增加。許多國家已實施樓宇用後評估。收集住戶反饋至關重要，尤其是對於採用新物料及概念建造的樓宇而言。」

至於立法及執法，一直以來，立法的最高宗旨是建造健康、穩健的制度和保護公眾。這項宗旨至今依然未變。儘管如此，黃山認為，政府仍需考慮業界的最新發展及可採用的新物料，更新「性能規範」。「[政府] 亦應更加關注其他國家的最新發展，以加強知識管理，[並] 需投入更多資源修訂法例及變更執法。」

鉛水事件的最終責任落在持牌水喉匠個人而非公司身上，著實出乎意料。蘇綺青說：「任何立法檢討均應關注是否由安裝水管系統的公司，而非由一名持牌水喉匠承擔責任—他可能只是一名僱員。」

黃山認為，除了立法及執法，政府亦可制定安全標準，以供私人發展商參考，因為事關公屋、醫院及社區中心等多個項目。「政府應承擔明確界定的領導角色。」蘇綺青補充說，香港《水務設施條例》亦需更新。她解釋道，儘管條例著重關注喉管裝置的質量及安全，但這些因素不一定等同水質。「部分國家設有《水質法案》，要求責任部門提供「純淨及健康的用水」。」

事件爆發後，水務署亦採取行動，力求避免日後發生同類事故。12 月，水務署推出「大廈優質供水認可計劃—食水（2.0 版）」，有助創造健康的用水環境及為市民提供優質用水。黃山認為，政府應將退伍軍人症的檢測機制納入計劃。

「政府亦可考慮強制要求定期檢測學校及其他公共場所的飲水機等設備。」

「大廈優質供水認可計劃—食水（2.0 版）」相關指引：
http://www.wsd.gov.hk/tc/customer_services_and_water_bills/application_for_licence_certificate/quality_water_recognition_scheme_for_buildings/index.html

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