

Guardians amid the Epidemic: Waterworks Chemists

(English translation of the Cantonese dialogue script)

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I am NG Kin-man, Waterworks Chemist of the Water Supplies Department (WSD).

A waterworks chemist is responsible for performing multi-faceted tasks, of which the most important mission is to ensure that the drinking water provided by the WSD is in compliance with the Hong Kong Drinking Water Standards and is safe for consumption. Every year, more than 160,000 water samples are taken by the WSD from the Dongjiang water supplied to Hong Kong, water gathering grounds, impounding reservoirs, water treatment works, service reservoirs, water distribution networks and consumers' taps to undergo about 600,000 tests for physical, chemical, bacteriological, biological and radiological analyses in response to the required monitoring and examination purposes.

The sampling methods and testing procedures of conducting water sampling checks vary greatly in accordance with different water quality parameters. The Waterworks Chemist has to keep a clear mind and be precise in avoiding even minute deviations from the stringent sampling and testing procedures throughout the monitoring process.

All raw water in Hong Kong undergoes rigorous treatment and disinfection processes at the WSD's water treatment works. In addition to supervising the drinking water treatment processes of the water

treatment works, the Waterworks Chemist is also responsible for maintaining the day-to-day operation of the water science laboratory and implementing the quality management system, so as to ensure the accuracy of water quality monitoring data.

In view of the latest developments of the COVID-19 epidemic situation, the Waterworks Chemist closely monitors and draws reference from the practices adopted by international organisations and overseas countries. It is ascertained that chlorination in the treatment process for drinking water can effectively destroy the coronavirus pathogen. The WSD has implemented a prudential measure by raising the residual chlorine level from 1 milligram (mg) per litre to around 1.2 mg per litre in the drinking water supplied by water treatment works to further safeguard water quality during the delivery and storing processes to keep it clean and hygienic.

Meanwhile, we have to ensure that the water science laboratories continue to maintain operation in the midst of the pandemic. As adequate manpower is required for the provision of essential services, we need to stagger work and lunch hours for staff members to minimise the risk of cross-infection. We would like to express thanks to the staff for their understanding and co-operation, such that the laboratory managed to monitor water quality during the peak of the pandemic. Monitoring results show that all the drinking water samples comply with the Hong Kong Drinking Water Standards.

The supply of water treatment chemicals may be affected by the epidemic situation. Hence, the Chemist has to undertake measures to increase the inventory level of these chemicals, which includes strengthening the communication with the suppliers to ensure smooth operation of the cross-boundary freight transport for cargo clearance of the new inventory. Also, with the flexible deployment of inventory, provision of adequate chemical stocks to water treatment works can be assured.

The drinking water supplied by the WSD has undergone rigorous treatment processes to ensure its quality. Nevertheless, tap water quality could be affected by a building's internal plumbing system. At the time Hong Kong's epidemic situation started to become severe last year, water sample collection from distribution networks was affected by the closure of some public premises during the period. Sample collection from randomly selected premises under the Enhanced Water Quality Monitoring Programme had also been suspended. We have to reassign other sample collection points to ensure sufficient drinking water samples are collected. Sample collection arrangements are suitably adjusted for anti-pandemic measures from time to time. At present, the sampling and water quality monitoring have generally returned to normal.

Besides, some premises have been closed for a long time due to the pandemic. Water quality issues might arise because of the prolonged stagnation of fresh water in the internal water supply system of the building. To ensure drinking water safety in buildings, the WSD continues to

promote the implementation of Water Safety Plan for Buildings (WSPB) in buildings. The Water Safety Plan Subsidy Scheme was launched in July 2020, with the aim of assisting the property owners in need to implement the WSPB in their buildings to further safeguard drinking water safety.

We constantly monitor the quality of drinking water and ensure reliable water supply in the territory. In response to the challenges arising from COVID-19, we stand fast at our duties and strive to provide water supply services to the public.

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