

Drinking Water Safety Advisory Committee
Sixth Meeting

Date : 22 June 2020 (Monday)
Time : 3:00 p.m. to 5:00 p.m.
Venue : Conference Rm 3, G/F, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong

Minutes of Meeting

Members Present

Ir LEUNG Kwong Ho, Edmund	Chairman
Ir Dr CHAN Hon Fai	Vice Chairman
Dr CHUI Ting Fong, May	
Prof HO Kin Chung	
Mr HO Kui Yip, Vincent	
Ir Prof LO Man Chi, Irene	
Ir TANG Ming Sum, Michelle	
Prof TSE Lap Ah, Shelly	
Dr WONG Siu Ming, Raymond	
Mr WONG Chung Leung	Director of Water Supplies
Mr CHAU Siu Hei, Francis	Deputy Secretary for Development (Works) 3
Dr NG Kwok Po, Eddy	Principal Medical & Health Officer (Disease Prevention), Non-Communicable Disease Branch, Department of Health (“DH”)
Mr KAN Yim Fai, Fedrick	Secretary Team Leader (Water Safety), Development Bureau (“DEVB”)

Members Absent with Apology

Dr CUNLIFFE David Anthony
Prof LAU Kar Pui, Susanna
Dr MA Yiu Wa, Anthony

Dr WONG TAAM Chi Woon, Vivian
Ir WONG Yiu Sun, Peter

In Attendance

Ms FOK Ka Lai	Assistant Secretary (Water Safety) 1, DEVB
Mr CHOW Wo Ming, Leo	Project Assistant Secretary (Water Safety) 3, DEVB
Ms YEUNG Man Yan, Didi	Executive Manager (Water Safety), DEVB
Mr CHAU Sai Wai	Deputy Director of Water Supplies
Mr WONG Yan Lok, Roger	Assistant Director/Development, Water Supplies Department (“WSD”)
Mr CHEUNG Yip Kui	Chief Engineer/Tech Support, WSD
Mr CHOY Tak Yip	Chief Chemist, WSD
Mr YU Chi Wing	Senior Chemist/Water Quality (Standards and Monitoring), WSD

Action by

1. The Chairman welcomed Members to the first meeting of the second term of the Drinking Water Safety Advisory Committee (“DWSAC”), in particular Dr CHUI Ting Fong, May and Ir TANG Ming Sum, Michelle who were new members of the DWSAC. He reminded all to note the house rules of the DWSAC and, where required, declare conflict of interests according to DWSAC Paper No. 1/2018.
2. The Secretary reported that some Members were not able to attend the meeting due to travel restriction under the COVID-19 pandemic. In this regard, the meeting materials had been sent to them on 12 June 2020 and their feedback or comments would be presented by the Secretary under the respective agenda items.
3. The Secretary reported that DWSAC Paper No. 1/2020 concerning the analysis of the annual drinking water quality statistics under the Enhanced Water Quality Monitoring Programme (“Enhanced Programme”) in 2019 had been circulated to Members on 5 February 2020. In gist, the paper summarised the test results of water samples collected from premises randomly selected under the Enhanced Programme in 2019, which showed compliance of the water samples with the Hong Kong Drinking Water Standards (“HKDWS”) in respect of the six metal parameters, viz. antimony, cadmium, chromium, copper, lead and nickel.

He added that no comment had been received from Members on the paper, and the statistics / analysis concerned had been uploaded to WSD's website in end February 2020.

4. The Secretary updated Members that as a result of the temporary suspension of the Enhanced Programme due to the COVID-19 pandemic, the earlier proposal to start collecting additional water samples in conjunction with the Enhanced Programme for testing of *E. coli* and residual chlorine in early 2020 (as reported in the previous DWSAC meeting) would be postponed.

Agenda Item 1: Confirmation of Minutes of the Last Meeting

5. The Secretary circulated the draft minutes of the last meeting (i.e. the fifth meeting) to Members on 13 January 2020 and comments received had been incorporated into the minutes. There being no further comment from Members at the meeting, the minutes were confirmed.

Agenda Item 2: Matters Arising from Last Meeting

6. In response to Members' suggestions made in the last meeting (paragraph 26 of the minutes of the last meeting), Mr TY CHOY, Chief Chemist of WSD, presented WSD's review results and follow up actions in respect of the three overseas water quality incidents reported in the last meeting.

7. Regarding the incident concerning ingress of contaminants to water mains, a Member asked about the number of bursting of water mains in Hong Kong every year and whether the water mains were disinfected after repair. Mr CL WONG, Director of Water Supplies, responded that there were less than a hundred cases of water main bursts last year. Mr SW CHAU, Deputy Director of Water Supplies added that adequate flushing and disinfection would be carried out to fresh water mains after repair in accordance with WSD's internal guidelines. Testing of residual chlorine level would also be carried out as necessary.

Agenda Item 3: Updates on Implementation of Action Plan for Enhancing Drinking Water Safety in Hong Kong ("Action Plan")

8. Mr TY CHOY updated Members on the implementation of the Action Plan.

In respect of the Enhanced Programme, he highlighted that collection of water samples at consumers' taps in randomly selected premises had been temporarily suspended since the end of January 2020 due to the COVID-19 pandemic. With reference to overseas practice such as that in the United Kingdom, it would not be necessary to increase the number of water samples to be collected to make up for the shortfall due to the suspension when the Enhanced Programme resumed. As for the Water Safety Plan for Buildings ("WSPB"), Mr Roger WONG, Assistant Director/Development of WSD, advised that the Water Safety Plan Subsidy Scheme would be open for application from 13 July 2020.

9. In respect of the temporary suspension of collection of water samples under the Enhanced Programme, the Chairman noted that WSD might resume the programme upon easing of the COVID-19 pandemic in Hong Kong, and he reminded WSD to take appropriate hygiene measures when entering consumers' premises so as to minimize the risk of spread of COVID-19.

10. A Member expressed that the Action Plan had made an impressive progress. The test results of water samples collected under the Enhanced Programme had been satisfactory while the snapshot monitoring of the 23 antibiotics in the Watch List had not presented any cause for concern. In respect of the commissioning of new plumbing installations including the trials for 24-hour stagnation test and the surveillance of the plumbing products with General Acceptance by WSD, the results had also been reassuring. In respect of the implementation of WSPB, the progress had also been encouraging as more buildings had implemented WSP and he would like to see the implementation of WSPB at residential care homes for the elderly, schools and hospitals. He also emphasised the importance of ensuring proper and continuous implementation of WSP in the buildings and in connection with this, he stressed the importance of having more public education on drinking water safety.

11. In respect of the snapshot monitoring of antibiotics, a Member enquired about the antibiotic classes such as beta-lactams that had not been included in the Watch List and the nine antibiotics that did not have testing services available at the moment. Mr TY CHOY explained that the 32 antibiotics included in the Watch List had been drawn up following the practice to be adopted by the Guangdong Provincial Government having regard to the consumption of antibiotics in the Mainland, the occurrence of antibiotics in environmental water as well as the availability of testing methods for a reliable quantification of antibiotics in water at extremely low level. In the case of Hong Kong, the developments and activities in the water gathering grounds were under stringent

control pursuant to the Waterworks Ordinance (Cap. 102) and therefore the risk of antibiotics entering the local catchments via rainwater was very low. Taking into account the above and the fact that Dongjiang water was the major raw water source of Hong Kong, it was appropriate to follow Guangdong Provincial's proposed practice to include the 32 antibiotics in Hong Kong's Watch List for snapshot monitoring. Regarding the antibiotic class of beta-lactams, although they were commonly prescribed in Guangdong Province and locally, they were readily hydrolysed and rarely detected in water, and hence not recommended for snapshot monitoring. As for the nine antibiotics¹ that did not have testing services available at the moment, WSD would continue to source for such testing services in the market.

12. A Member asked about WSD's testing of antibiotics, antivirals and persistent organic pollutants in drinking water. Mr TY CHOY replied that WSD had been outsourcing such testing work. He said that according to the guideline on testing pharmaceuticals in drinking water issued by the World Health Organization ("WHO"), typical levels of pharmaceuticals in raw and treated water were less than 100 ng/l and 50 ng/l respectively and at such low level in treated water, they would not pose any appreciable adverse risks to human health. He added that in the case of Hong Kong, the 23 antibiotics detected in the raw water and treated water in their snapshot monitoring were both at very low levels and would not pose any adverse risk to human health. Although testing services of the nine antibiotics were not available in the market, it was believed that their concentrations in the raw water and treated water would also be very low. He further remarked that WSD would continue to search and engage testing services for snapshot monitoring of the nine antibiotics .

13. Mr CL WONG supplemented that according to a WHO report on pharmaceuticals in drinking water, monitoring of antibiotics was normally not necessary for drinking water. Besides, overseas water suppliers did not monitor antibiotics in raw and treated water. Nevertheless, WSD adopted a prudent approach to include the 32 antibiotics in the Watch List.

14. A Member noticed that the reporting limit of norfloxacin had increased from < 15 ng/L to < 43 ng/L in the snapshot monitoring in 2018 and 2019 respectively. Mr TY CHOY explained that the level of norfloxacin in raw water was at trace level and the quantitation could be easily interfered by other substance in the water samples leading to the increase in reporting limit. He pointed out that an increase

¹ They include difloxacin, fleroxacin, leucomycin, marbofloxacin, oleandomycin, sulfameter, sulfamonomethoxine, sulfapyridine and sulfaquinoxaline.

in the reporting limit of an antibiotic did not necessarily indicate an increase in the amount of that antibiotic in water. Another Member suggested that although the levels of the other 22 antibiotics in the snapshot monitoring were very low, WSD should continue the snapshot monitoring on the trend of their levels in the drinking water in Hong Kong.

15. A Member asked if the current water treatment process could remove antibiotics, antivirals and persistent organic pollutions. Mr CL WONG pointed out that the treatment process could help remove part of the antibiotics in comparing the snapshot monitoring results of antibiotics in raw water and treated water. He added that powdered activated carbon could be used, if needed, to absorb organic compounds such as 2-Methylisoborneol (“MIB”). Besides, WSD would commission a consultancy study on the feasibility of using granular activated carbon to replace anthracite as filter media in existing water treatment works for removing organic compounds.

16. A Member shared that, apart from antibiotics, antidepressant drugs, cyanobacteria and microplastics were receiving more attention worldwide. Another Member suggested inclusion of ibuprofen and carbamazepine in WSD’s monitoring, which were found in sewage effluents under some local research projects. WSD noted Members’ suggestions and would review the Watch List in due course.

WSD

Agenda Item 4: 2019 Annual Report on Drinking Water Quality in Hong Kong (“Annual Report”)

17. Ms KL FOK, Assistant Secretary (Water Safety) 1 of DEVB, and Mr Leo CHOW, Project Assistant Secretary (Water Safety) 3 of DEVB, briefed Members about the Annual Report issued by the Drinking Water Safety Unit (“DWSU”) of DEVB. They also informed Members that the Annual Report would be published at DEVB’s website after the meeting.

18. The Chairman noticed that the third party audit team comprised, amongst others, an overseas expert and asked if the third party audit this year would be affected due to the COVID-19 pandemic. Mr Leo CHOW replied that the third party audit would be carried out once the travel restriction to Hong Kong was lifted.

19. A Member expressed his endorsement of the Annual Report. In particular, he

opined that the DWSU had implemented a thorough range of activities that were consistent with those adopted internationally by regulators. Water quality compliance with the HKDWS and the general meeting of requirements of WSD's Drinking Water Quality Management System including the awareness and responsiveness of WSD staff were positive outcomes. He added that the finding of some areas for improvement was not unusual in thorough drinking water management plan audits. In respect of the management of water quality incidents, he emphasized that prompt reporting of notifiable incidents to the DWSU was an essential requirement of WSD's Water Quality Incident Management Plan ("WQIMP"). In this regard, WSD management should reinforce the department's compliance with the WQIMP.

20. A Member asked how DWSU classified its surprise checks' findings. Mr Leo CHOW replied that the findings would generally be classified as "non-conformity" or "observation". In the three surprise checks conducted in 2019, only observations were made.

21. In respect of a notifiable water quality incident shared by DWSU at the meeting, a Member enquired how the awareness of WSD's staff members could be enhanced in making prompt reporting of notifiable incidents to DWSU. Mr CL WONG responded that WSD had issued internal instructions on prompt reporting of water quality incidents and staff were in general aware of the requirement. WSD would further arouse its staff awareness on the WQIMP's requirements, in particular the prompt reporting of notifiable water quality incidents. Another Member asked about the yellowish water and bitumen particles found in the inside service in the same incident. Ms KL FOK explained that the yellowish water was due to sediments in the water mains being stirred up as a result of the operation of valves which had caused a change in water flow direction in the water mains, whereas the bitumen particles would not normally be of a drinking water safety concern since it should comply with relevant British Standards which precluded harmful substance that might affect drinking water safety. As an improvement measure, DWSU suggested that WSD should enhance communication with the affected residents before any water main works involving valve operation started so as to lessen the residents' concerns.

22. In response to a Member's enquiry on the consultancy study to tackle the presence of bitumen particles in water, Mr CL WONG replied that the consultancy had been commissioned in 2019 to study the problem of detachment of internal bitumen lining in steel water mains and to propose strategies to deal with it. He added that steel water mains with internal bitumen lining were commonly used in

the last century and the bitumen lining complied with relevant British Standards for contact with potable water. According to the findings of the consultancy study, the detached internal bitumen lining, in the form of black particles in water, would not pose any health risk to consumers. Nonetheless, the presence of such bitumen particles in water would be unsightly and therefore WSD would, as an interim measure, install strainers or separators at strategic locations in government water mains where bitumen particles were found while the long term strategies would be formulated under the study to deal with the problem.

23. After some deliberations, Members in general agreed that the Government should pay more efforts in public education by various means so that the public could get updated information about the quality of drinking water in Hong Kong and recognise WSD's effort in enhancing drinking water safety. A Member also suggested that the Government might consider conducting press conference or media briefing on specific topics with a view to conveying relevant information to the public. Mr CL WONG responded that WSD would continue to make efforts on communicating the various information related to drinking water safety to the public through different channels. Ms KL FOK supplemented that the publication of Annual Report would be a way to demonstrate Government's efforts in safeguarding drinking water safety. She also added that DEVB and WSD would explore how public education and publicity on drinking water safety could be enhanced.

Agenda Item 5: Summary on International Water Quality Incidents

24. Mr TY CHOY briefly reported on WSD's review on major international water quality incidents during the period from July 2019 to February 2020.

25. A Member was concerned with possible existence of Cryptosporidium and Giardia ("C&G") in the raw water in Hong Kong. Mr TY CHOY responded that while no C&G had been detected in the monitoring of the raw water and treated water in Hong Kong, the water treatment process in Hong Kong should be effective to remove such parasites.

Agenda Item 6: Any Other Business

26. Mr TY CHOY made a presentation on the actions taken by WSD in response to the COVID-19 pandemic.

27. A Member shared that drinking water providers in Australia adopted similar practices to those implemented in Hong Kong, where the provision of drinking water and making available sufficient water treatment chemicals were identified as essential services during the pandemic.

28. There being no other business, the meeting adjourned at 5:00 p.m.