Drinking Water Safety Advisory Committee
Fourteenth Meeting

Date : 14 March 2024 (Thursday)
Time : 10:00 am – 11:40 am
Venue : Conference Room 1, G/F, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong / Video conferencing

Minutes of Meeting

Members Present

Ir Dr CHAN Hon Fai	Chairperson
Ir Prof LO Man Chi, Irene	Vice-Chairperson
Dr CHAN Chun Man, Jones	
Sr CHEUNG Man To, Arthur	
Ir CHUNG Chi Ming	
Dr CUNLIFFE David Anthony	
Dr HO Koon Sing, Gray	(via video conferencing)
Prof LEE Wing Yan, Vivian	
Prof LIU Hong Bin	
Dr TAM Lai Fan, Gloria	
Ir TANG Ming Sum, Michelle	
Prof TO Kai Wang, Kelvin	
Mr YAU Kwok Ting, Tony	Director of Water Supplies
Mr HO Ying Kit, Tony	Deputy Secretary for Development (Works) 3
Dr HO Ka Wai, Rita	Head, 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

Ir CHAN Chi Ming, Antonio

Dr CHUI Ting Fong, May

In Attendance

Ms KWAN Kai Yin, Janice	Assistant Secretary (Water Safety) 1, DEVB
Mr LO Tsz Lung, Warren	Assistant Secretary (Water Safety) 2, DEVB
Ms YEUNG Man Yan, Didi	Executive Manager (Water Safety), DEVB
Mr WONG Kwok Fai, Alfred	Deputy Director of Water Supplies
Mr MA Hon Wing, Wilson	Assistant Director/Development, Water Supplies Department ("WSD")
Mr CHOY Tak Yip	Chief Chemist, WSD
Ms LAM Lai Hang, Mable	Chief Engineer/Technical Support, WSD
Mr TONG Man Kit, Max	Senior Engineer/Legislative Review 2, WSD
Mr YU Chi Wing, Albert	Senior Chemist/Water Quality (Standards and Monitoring), WSD

Action by

1. The Chairperson welcomed Members to the first meeting of the fourth term of the Drinking Water Safety Advisory Committee ("the Committee"). He reminded all to note the house rules of the Committee and, where required, declare conflict of interests according to DWSAC Paper No. 1/2018.

2. The Secretary reported that WSD had issued a press release in January 2024 to provide a brief overview for the Enhanced Water Quality Monitoring Programme ("Enhanced Programme") in 2023. Also, DWSAC Paper No. 1/2024 presenting the annual drinking water quality statistics under the Enhanced Programme in 2023 had been circulated to Members in February 2024. The annual statistics had been uploaded to WSD's website.

3. The Secretary advised that WSD has started operating the first stage of Tseung Kwan O Desalination Plant since 22 December 2023, providing a new and stable water source that is not susceptible to climate change.

4. The Secretary informed that no comments on the discussion paper DWSAC No. 2/2024 or meeting materials had been received from Members absent from this meeting.

Agenda Item 1: Confirmation of Minutes of the Last Meeting

5. The minutes of the thirteenth meeting were confirmed.

Agenda Item 2: Matters Arising from the Last Meeting

6. As reported in the post-meeting note in paragraph 9 of the minutes of the last meeting, WSD had provided further information on the lead limits for plumbing products adopted in other jurisdictions. As agreed at the last meeting, WSD would conduct an interim review after implementation of the new lead limit requirement for plumbing materials for two years to explore the suitability of bringing in further enhancement.

Agenda Item 3: Review of Hong Kong Drinking Water Standards ("HKDWS")
(DWSAC Paper No. 2/2024)

7. Mr Albert YU, Senior Chemist/Water Quality (Standards and Monitoring), of WSD briefed Members on the findings of the review on HKDWS, Surveillance List ("SL"), Watch List ("WL") and Aesthetic Guidelines ("AG") (hereinafter collectively referred to as "Lists") and the proposed revisions.

8. On the proposed monitoring of cyanotoxins, a Member shared the approach adopted by Australia, which focused primarily on routine cyanobacteria monitoring in source waters and cyanotoxins testing would only be conducted as a secondary step following detection of cyanobacteria. He remarked that testing of cyanobacteria was relatively quicker, and such tiered approach was in line with the framework on cyanobacterial control of the World Health Organization ("WHO"). He opined that there was no need to change the proposed monitoring

frequency for cyanotoxins in reservoir waters, but suggested that WSD could consider adopting the Australian approach of monitoring cyanobacteria in impounding reservoirs in Hong Kong in the future.

[Dr Gray Ho left at this juncture.]

9. In response, Mr YU said that WHO's alert level framework for cyanotoxins had been studied and the recommendation of WSD's consultant was to modify the current alert level framework for 2-methylisoborneol ("MIB") to include geosmin and cyanotoxins, which would trigger corresponding actions upon detection above the respective alert levels. Direct measurement of cyanotoxin concentrations, with alert levels set accordingly, was considered as a more efficient and practical approach in the current local context given the lack of past monitoring data of cyanotoxins (other than microcystin-LR) to establish toxin-chlorophyll or toxin-biomass ratios. Mr TY CHOY, Chief Chemist of WSD, supplemented that the consultant had reviewed the applicability of WHO's alert level framework which adopted chlorophyll *a* as an indicator against the local context. WSD would review the situation after collecting more data in an attempt to establish relationship between cyanotoxin levels and suitable indicator(s). He added that chlorination in the water treatment process was effective in removing cyanotoxins. The Member suggested that WSD could try to establish the relationship of cyanotoxin with biomass or cell count instead of chlorophyll *a*. Another Member agreed with the proposed monitoring on cyanotoxins given the impact of climate change, and shared that WSD could consider measuring pigments such as phycocyanins and phycoerythrins as indicators of cyanobacteria in the future.

10. On per- and polyfluoroalkyl substances ("PFAS") chemicals which are in the WL, a Member remarked that WSD should pay attention to the increasing list of PFAS chemicals and in particular different groups of PFAS chemicals had been regulated by various jurisdictions. Hong Kong should decide on the local approach to be adopted in the future, though there was no pressing need at present. He opined that Hong Kong's three-tiered structure of HKDWS, SL and WL with respective monitoring frequencies was a very sound approach in line with international practices, but noted that the WL was expected to grow in the coming years. He also expressed support on the recommended upgraded surveillance monitoring for sum of five haloacetates.

11. In response to a Member's enquiries, Mr CHOY said that WSD had adopted the parameters with respective guideline values/provisional guideline values stipulated in WHO's Guidelines for Drinking-water Quality before 2017, and these

parameters were eventually adopted as HKDWS in 2017. The HKDWS had then been revised in 2021 after the completion of the first review of HKDWS by an expert consultant and endorsement by the Committee. He went on to advise that the independent expert consultant engaged for the reviewing the HKDWS in the current exercise involved a team with a microbiologist, treatment expert and toxicologist from Australia. As regards the parameters in SL, he explained that they were those monitored in other jurisdictions' drinking water standards with relevance to Hong Kong but at a low or undetectable level in Hong Kong's drinking water. Hence, they were monitored for the trend at half-yearly intervals, which were less frequent than parameters in HKDWS but more frequent than those in WL. He added that all water sample tests were conducted by laboratories with quality assurance system in accordance with ISO/IEC 17025 standards and the requirements of the Hong Kong Laboratory Accreditation Scheme, including the microbiological tests concerned, e.g. *E. coli*.

12. A Member enquired if WHO or other jurisdictions monitored viruses in drinking water, and expressed concern over the cost implication for WSD to monitor the increased number of parameters in HKDWS and the Lists. Mr CHOY responded that it was a common approach by WHO and other jurisdictions to monitor indicator organism to ascertain the absence of pathogens in drinking water, and WSD monitored *E. coli* as the indicator to ascertain the absence of faecal contamination. Another Member shared that most jurisdictions did not set standards for viruses or protozoa, and the common approach was to monitor the level of chlorine residual and turbidity as indicators of sufficient inactivation of viruses and protozoa. As for the cost implication of monitoring, Mr CHOY stated that the current monitoring regime was a cost-effective one, given the fact that (i) HKDWS and the Lists would be established based on the local context with the monitoring frequencies matching with the risk of the respective parameter; and (ii) optimal and representative monitoring locations would be set.

13. A Member enquired if there would be a need for separate additional monitoring for aged buildings. Mr CHOY explained that under the Enhanced Programme, water samples were collected from randomly selected premises covering different building ages. So far, there had only been two isolated lead exceedance cases due to improper installation or maintenance of internal plumbing system or water using apparatus, and the monitoring data collected under the Enhanced Programme did not indicate that there was a need to implement a separate monitoring programme for aged buildings.

14. The Chairperson appreciated that the review study of HKDWS had looked into all parameters covered by the national standards GB 5749-2022 and had recommended inclusion of relevant parameters in the WL, as WSD could then collect data to keep an eye on those parameters.

15. In response to the Chairperson's enquiry on appropriate measures in ensuring that future change of risk of antimony would not be unnoticed upon removal of antimony monitoring from the Enhanced Programme, Mr YU highlighted while antimony would continue to be monitored at outlets of water treatment works to ensure the compliance of treated water quality with HKDWS, existing material control measures as well as commissioning tests on new and replacement plumbing installations would still be in place for managing the risk of antimony. Furthermore, the upcoming metal leaching tests requirements for plumbing materials to be introduced by legislative amendment would also include leachability test for antimony. It would be unlikely that the use of non-compliant material would be unnoticed.

16. For the monitoring of taste and odour, the Chairperson enquired if there could be surrogate in replacement of having WSD's staff to taste the water. Mr YU answered that the practice of trained staff to perform taste on water samples known to be potable and safe aligned with the international standard methods, and there was no surrogate for taste test on water samples. A Member enquired if there was any screening process to ensure that testing staff did not have problems with tasting (e.g. due to infection of COVID-19). Mr CHOY advised that, based on the standard procedure, staff concerned had to answer questions on their sensory conditions before conducting the taste and odour tests. In addition, WSD used standard compound to regularly check and re-train staff for their suitability for conducting the tests.

17. After discussion, Members endorsed the recommended updates to the HKDWS and the Lists, as well as the associated monitoring programme.

Agenda Item 4: Any Other Business

18. The Secretary recapped that for the discussion suggested by a Member on achieving better water conservation in relation to the systematic flushing protocol involved in the commissioning requirements for new plumbing works, such issue was being looked into by WSD and the matter would be included for discussion in

the next meeting under the updates on implementation of the Action Plan for Enhancing Drinking Water Safety in Hong Kong.

19. There being no other business, the meeting adjourned at 11:40 a.m.