

**Drinking Water Safety Advisory Committee
Ninth Meeting**

Date : 22 November 2021 (Monday)
Time : 4:30 p.m. to 6:45 p.m.
Venue : Conference Room 5, 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	
Ir Prof LO Man Chi, Irene	
Dr MA Yiu Wa, Anthony	
Ir TANG Ming Sum, Michelle	
Dr TO Kai Wang, Kelvin	
Prof TSE Lap Ah, Shelly	
Dr WONG Siu Ming, Raymond	
Dr WONG TAAM Chi Woon, Vivian	
Ir WONG Yiu Sun, Peter	
Mr LO Kwok Wah, Kelvin	Director of Water Supplies
Mr CHAU Siu Hei, Francis	Deputy Secretary for Development (Works) 3
Dr SO Pui Sheung, Kellie	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 HO Kin Chung

Mr HO Kui Yip, Vincent

In Attendance

Ms KWAN Kai Yin, Janice	Assistant Secretary (Water Safety) 1, DEVB
Ms YEUNG Man Yan, Didi	Executive Manager (Water Safety), DEVB
Mr CHAU Sai Wai	Deputy Director of Water Supplies
Mr MA Hon Wing, Wilson	Assistant Director/Development, Water Supplies Department (“WSD”)
Mr YAU Hau Yin	Chief Engineer/Technical Support, WSD
Mr CHOY Tak Yip	Chief Chemist, WSD
Mr YU Chi Wing, Albert	Senior Chemist/Water Quality (Standards and Monitoring), WSD
Ms KWONG Ka Ping	Chemist/Scientific Support, WSD

Action by

1. The Chairman informed that some Members were unable to attend the meeting due to travel restriction under the COVID-19 pandemic. As a result, the meeting materials had been sent to them on 9 November 2021 for comments and their response would be presented by the Secretary under the respective agenda items.

2. The Secretary reported that subsequent to the discussion in the last meeting, the Government had updated the Watch List in July 2021 and uploaded it at the relevant webpages of DEVB and WSD. The presence of *Escherichia coli* (“*E.coli*”) in water samples from Wu Kau Tang Fresh Water Tank and a lead exceedance case under the Enhanced Water Quality Monitoring Programme (“Enhanced Programme”) would be reported by WSD in the relevant agenda items. The media had interviewed Vice Chairman and Mr Vincent HO regarding the lead exceedance case, and both of them had pointed out that while the cause

was subject to investigation, the lead exceedance might have been caused by the use of non-compliant plumbing products or inadequate cleansing and flushing after plumbing replacement, which could serve as useful reminder to the public on the relevant points to note in safeguarding drinking water safety.

3. The Secretary also reported that DWSAC Paper No. 3/2021 regarding the updates on drinking water standards in overseas jurisdictions had been prepared for discussion under Agenda Item 4 below. Such updates would subsequently be reported once a year.

Agenda Item 1: Confirmation of Minutes of the Last Meeting

4. The Secretary circulated the draft minutes of the last meeting (i.e. the eighth meeting) to Members on 27 July 2021. The revised minutes incorporating comments received and further updates on the post-meeting notes were subsequently circulated on 5 November 2021 and no comment had been received. There being no further comment from Members at the meeting, the minutes were confirmed.

Agenda Item 2: Matters Arising from Last Meeting

5. WSD's updates for addressing Members' suggestions on the analysis and review of data collected under the Enhanced Programme, as well as the refinement of commissioning requirement of new plumbing installation (paragraphs 12, 13 and 18 of the minutes of the last meeting), were to be covered under Agenda Item 3 below (see paragraphs 13 to 15 below).

6. Regarding the parametric value for *Legionella* adopted by the European Union (paragraph 15 of the minutes of the last meeting), WSD had reported the Prevention of Legionnaires' Disease Committee's advice in the post-meeting note of paragraph 15 of the minutes of the last meeting.

7. On Member's suggestion of utilising Singapore's odour incident to remind local practitioners the importance of using compliant materials, WSD would continue to raise the issue in its regular meeting with the plumbing associations.

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

8. Ms KP KWONG, Chemist/Scientific Support of WSD, updated Members on the implementation of the Action Plan.

[Ir TANG Ming Sum, Michelle arrived at this juncture.]

9. For the lead exceedance found in a water sample taken from a private non-domestic premises in Wan Chai under the Enhanced Programme, a Member opined that WSD’s immediate responses to the lead exceedance case had mitigated the risk to public health, and looked forward to the outcomes of the investigation and further follow up actions. Another Member echoed that, having worked in the Committee in the past four years, he was confident with WSD’s follow up actions in safeguarding public drinking water safety.

10. Mr TY CHOY, Chief Chemist of WSD, supplemented that the owner of the premises would engage a qualified person to carry out an investigation into the incident, which was planned for completion in December 2021. WSD would closely monitor the progress of the investigation and work collaboratively with the responsible parties for the necessary follow up actions.

11. The discussion was kept in strict confidence.

12. In response to a Member’s enquiry on whether there was any differential arrangement in sample collection for schools under the Enhanced Programme given the potential long water stagnation after school holidays, Mr TY CHOY responded that all premises in the territory were subject to the same sampling arrangement. Mr Francis CHAU added that WSD had provided relevant tips and guidance on ways to ensure drinking water safety in the school settings. Also, all government schools would implement Water Safety Plan for Buildings (“WSPB”) and the Government was exploring ways to promote the implementation of WSPB in non-government schools. The Secretary supplemented that in 2015, the Government tested the lead in drinking water for most of the kindergartens, welfare units serving children aged below six who had to stay in the units for long hours, as well as public sector and Direct Subsidy Scheme schools built with government funding in or after 2005. After considering the relevant test results and the water usage habits of children and students in these premises, the International Expert Panel on Drinking Water Safety (“IEP”) considered that the risk of children and students from lead exposure in those premises was low.

Therefore, the IEP considered that other than covering such premises by the Enhanced Programme, there was no need for further testing in them again.

13. In response to Members' views given in the last meeting, Ms KP KWONG presented the interim data analysis on the metal contents of Random Day Time water samples collected under the Enhanced Programme according to the types of the premises (viz. domestic (public rental housing), domestic (non-public rental housing) and non-domestic). The analysis showed that there was no significant difference in the mean metal contents found among the three types of premises, except for copper. Nevertheless, the maximum copper contents of the three types of premises were all far below the respective standard value of the Hong Kong Drinking Water Standards ("HKDWS"). A Member commented that the results from the Enhanced Programme were generally good. On another Member's enquiry on WSD's collection of data for the six metals for one or two more years before their standard values were to be reviewed, Mr TY CHOY responded that the review would be made when sufficient samples were collected for meaningful statistical analysis. He added that the review would also take into account updates from the World Health Organization ("WHO") on its guideline values for the six metals, if any. Given the earlier suspension of the Enhanced Programme due to the COVID-19 pandemic, the current proposal was still in line with IEP's recommendation that a review should be conducted when sufficient local data were available in three to five years' time.

14. A Member commented that the surveillance programme for products approved under WSD's General Acceptance system ("GA products") and the current six-hour stagnation sampling test for new plumbing installations had shown good results while results from 24-hour stagnation sampling test ("24HS") were encouraging. He was interested to know the impacts of the streamlined systematic flushing protocol as recommended by WSD's consultant earlier on, i.e. inside services soaked with chemical agents with the subsequent flushing reduced to three times in three days, and emphasised that continued consultation with the licensed plumbers and stakeholders was important. Mr TY CHOY responded that laboratory results on the application of the refined flushing protocol on individual plumbing components indicated that there was observable reduction in the metal leaching using 30 ppm hypochlorite as the soaking solution. Field tests and trials on the refined flushing protocol would start from November 2021 to Q1 2022 tentatively, and WSD would evaluate the results and report the findings to the Committee afterwards. Upon satisfactory completion of the field tests and trials on the refined flushing protocol, WSD would consult the licensed plumbers and plumbing stakeholders about the refined 24HS for commissioning of new

plumbing installation at regular meetings with the plumbing associations and the Technical Committee of Plumbing in Q2/Q3 2022 tentatively. WSD planned to adopt 24HS as the commissioning requirement for new plumbing installations in Q4 2022 tentatively.

15. In response to a Member's enquiry, Mr TY CHOY clarified that when conducting the field trials, WSD would invite new developments, on a voluntary basis, to adopt 24HS using the refined flushing protocol. In response to another Member's enquiry, Mr TY CHOY advised that 24HS had been adopted by Singapore for the commissioning of plumbing system in new buildings, while a 24-hour leaching test period for pipes and fittings had been adopted under the joint Australian/New Zealand Standard AS/NZS 4020. He added that the IEP considered that 24HS could offer best protection to the consumers as the surface of new plumbing installations would have a higher probability of metal leaching. WSD opined that an effective flushing protocol together with 24HS would better reduce the metal leaching and ensure the water quality.

16. Whilst commending WSD for the impressive progress in the implementation of WSPB, a Member remarked that it had been traditionally a challenging area for drinking water suppliers. Mr TY CHOY responded that WSD would continue to promote the implementation of WSPB in government and private buildings (e.g. through the Water Safety Plan Subsidy Scheme), and to coordinate with the accredited training programme providers to provide relevant training to qualified persons.

17. A Member appreciated the Government's efforts in tightening plumbing material control in the past years, but pointed out that it might be worth exploring if there was room for controlling the risk of non-compliant non-GA products in the retail market to reduce the risk of excessive metal content in drinking water. Members also raised examples such as testing the quality of non-GA products and permitting sales of GA products only. Mr TY CHOY replied that WSD had been promoting the use of GA products through the voluntary GA Product Shop Scheme coupled with the display of GA labels on plumbing products, and had also established a voluntary GA* Scheme for low leaching products for promoting their use to the public. Mr Kelvin LO, Director of Water Supplies, supplemented that strengthened control on plumbing product/material through leachability test was being considered for incorporation into the upcoming amendment of Waterworks Ordinance and Waterworks Regulations.

18. The Chairman concluded the discussion by remarking that the Committee

had no objection to WSD's proposal on collecting more sampling data, if necessary, under the Enhanced Programme for one to two more years before reviewing the standard values of the six metals for Hong Kong, and reminded WSD to consider other opinions provided by Members.

Agenda Item 4: Updates on Drinking Water Standards in Overseas Jurisdictions

(DWSAC Paper No. 3/2021)

19. Mr Albert YU, Senior Chemist/Water Quality (Standards and Monitoring) of WSD, briefed Members on the updates made by overseas jurisdictions on drinking water standards for the period from January to September 2021, including the introduction of new guidance on short-term exposure values in the Australian Drinking Water Guidelines ("ADWG") of Australian Government and the Lead and Copper Rule Revisions ("LCRR") by the Environmental Protection Agency of the United States, as well as WSD's assessment and recommended follow up actions in respect of the changes made in the revised ADWG and LCRR. In gist, WSD recommended that there was no imminent need to trigger the derivation of short-term exposure values for the parameters in HKDWS, nor the review of water quality monitoring programme for lead and copper. WSD would continue to keep abreast of the approach in derivation of the short-term exposure values adopted by overseas jurisdictions, and also to promote the implementation of WSPB in schools.

[Dr May CHUI left at this juncture.]

20. A Member agreed with WSD's recommendations, and further shared that changes to guideline values included in WHO's revised background documents would be incorporated in a second addendum to the Guidelines for Drinking-water Quality ("GDWQ") which was nearing completion. Mr Albert YU responded that WSD would continue to keep in view the latest development of the drinking water standards in overseas jurisdictions, and would keep the Committee informed once WHO published the latest GDWQ.

21. Noting a new provisional guideline value ("PGV") for manganese had been proposed in WHO's draft background document, a Member enquired about the manganese content in Hong Kong's drinking water. Mr TY CHOY replied that manganese was currently in Hong Kong's Aesthetic Guidelines, and its level in treated water at water treatment works had all along been found well below

WHO's proposed PGV of 80µg/L. He added that water with manganese content approaching WHO's proposed PGV would be yellowish and therefore easily be detected by consumers. In response to another Member's enquiry, Mr TY CHOY advised that manganese in raw water could be treated by chlorine oxidation and, if needed, together with permanganate.

22. The Chairman concluded that the recommendations set out in DWSAC Paper No. 3/2021 were endorsed by the Committee, i.e. there was no imminent need to develop short-term exposure values for the parameters in HKDWS, whilst the current water quality monitoring programme for lead and copper in Hong Kong was sufficient. The Chairman remarked that the Committee hoped WSD would continue to actively promote the implementation of WSPB in schools.

Agenda Item 5: Summary on International Water Quality Incidents

23. Mr TY CHOY gave a brief account of WSD's review on major international water quality incidents for the period from February to May 2021. Of the five incidents more relevant to Hong Kong, Mr TY CHOY deliberated the situation in Hong Kong and Members had no comment.

24. Mr TY CHOY also reported a local incident involving the presence of *E.coli* in drinking water samples taken from Wu Kau Tang Fresh Water Tank. He said that the preliminary findings of the ongoing investigation revealed that the microbial contaminant might have entered the water tank during the opening of the tank cover. A Member agreed with WSD's preliminary findings and suggested WSD reviewing the sample collection procedure, such as installing external sampling pipework to prevent recurrence of the situation. Mr TY CHOY responded that WSD would normally use taps for sample collection where available and would in future enhance internal communication to facilitate sampling process on site. For service reservoirs without sampling taps, WSD would arrange to install the taps and use them for water sample collection as far as practicable. If water sampling taps were not available or unsuitable for use under certain circumstances, dip water sampling via the access openings of water tanks would be taken in a controlled manner to avoid contaminants from the surrounding environment from entering the water tanks. In light of the above incident, WSD would remind its staff to exercise due care when collecting water samples to prevent environmental contaminants from entering the water tanks.

25. In response to another Member's enquiry regarding the possibility of having contaminants entered the water tank via roof ventilators or overflow pipes, Messrs

TY CHOY and YAU Hau Yin, Chief Engineer/Technical Support of WSD, explained that wire meshes had been installed at the roof ventilators and overflow pipes, and thus the possibility of having contaminants entered the water tank via such routes should be low.

26. After discussion, the Chairman concluded by reminding WSD to examine whether other fresh water tanks were subject to similar risks and make appropriate improvements, if necessary.

WSD

Agenda Item 6: Any Other Business

27. There being no other business, the meeting adjourned at 6:45 p.m.