

**Drinking Water Safety Advisory Committee
Sixteenth Meeting**

Date : 30 April 2025 (Wednesday)
Time : 10:00 am – 12:00 noon
Venue : Conference Room 5, G/F, Central Government Offices,
2 Tim Mei Avenue, Tamar, Hong Kong

Minutes of Meeting

Members Present

Ir Dr CHAN Hon Fai	Chairperson
Ir Prof LO Man Chi, Irene	Vice-Chairperson
Ir CHAN Chi Ming, Antonio	
Dr CHAN Chun Man, Jones	
Sr CHEUNG Man To, Arthur	
Dr CHUI Ting Fong, May	
Ir CHUNG Chi Ming	
Dr CUNLIFFE David Anthony	(via video conferencing)
Dr HO Koon Sing, Gray	(via video conferencing)
Prof LEE Wing Yan, Vivian	(via video conferencing)
Prof LIU Hong Bin	
Dr TAM Lai Fan, Gloria	
Ir TANG Ming Sum, Michelle	(via video conferencing)
Prof TO Kai Wang, Kelvin	
Mr WONG Yan Lok, Roger	Director of Water Supplies
Mr HO Ying Kit, Tony	Deputy Secretary for Development (Works) 3
Dr SHARMA Geeta	Principal Medical & Health Officer (Disease Prevention), Non-Communicable Disease Branch, Department of Health (“DH”) (Acting)

Mr CHAU Siu Hei, Francis

Secretary
Team Leader (Water Safety), Development Bureau
("DEVB")

In Attendance

Mr LO Tsz Lung, Warren	Assistant Secretary (Water Safety) 1, DEVB
Ms YEUNG Man Yan, Didi	Executive Manager (Water Safety), DEVB
Mr MA Hon Wing, Wilson	Deputy Director of Water Supplies (Acting)
Mr YIP Ka Chun, Gary	Assistant Director/Development, Water Supplies Department ("WSD") (Acting)
Mr CHOY Tak Yip	Chief Chemist, WSD
Mr LEE Kwun Chung, Johnson	Chief Engineer/Technical Support, WSD
Ms CHAN Ka Man, Carmen	Senior Chemist 6, WSD (Acting)
Mr LEE Hong Nin, Kevin	Senior Engineer/Technical Support 2, WSD
Mr LI Ting Lun, Jerry	Senior Mechanical Engineer /On-site Chlorine Generation, WSD
Mr YU Chi Wing, Albert	Senior Chemist/Water Quality (Standards and Monitoring), WSD
Mr LIU Hon Lam	Mechanical Engineer/On-site Chlorine Generation, WSD
Mr TSOI Tik Hung, Dick	Chemist/Planning 2, WSD
Mr YU Chun Wing, Jeffrey	Chemist/Treatment 4, WSD

Action by

1. The Chairperson welcomed Members to the sixteenth meeting of the Drinking Water Safety Advisory Committee ("the Committee"). He especially welcomed Dr SHARMA of DH to attend this meeting since Dr Rita HO had already retired from the civil service.

2. At the request of the Chairperson, the Secretary reported that DWSAC Paper No. 1/2025 presenting the annual drinking water quality statistics under the Enhanced Water Quality Monitoring Programme ("Enhanced Programme") in 2024 had been circulated to Members in March 2025, with no comment received.

The annual statistics had subsequently been uploaded to WSD's website. He went on to report that the proposed revision to the Hong Kong Drinking Water Standards ("HKDWS") had been endorsed by the Secretary for Development followed by public announcement of the updates on 23 April 2025. In addition, antimony would cease to be monitored under the Enhanced Programme starting from June 2025.

Agenda Item 1: Confirmation of Minutes of the Last Meeting

3. The minutes of the fifteenth meeting were confirmed.

Agenda Item 2: Matters Arising from the Last Meeting

4. The Secretary informed that the update of WSD's ongoing review of the systematic flushing protocol and the statistical analysis of the monitoring data under the Enhanced Programme, as discussed in the last meeting had been included in Agenda Items 5 and 3 of this meeting respectively.

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

5. Mr Dick TSOI, Chemist/Planning (2) and Mr Kevin LEE, Senior Engineer/Technical Support (2) of WSD, updated Members on the implementation of the Action Plan.

6. The Chairperson noted a raised residual chlorine level in drinking water and enquired if such a raised level would be maintained in the future. Mr TY CHOY, Chief Chemist of WSD, replied that increasing the chlorine level in drinking water had been launched since November 2022 at the request of DH as one of the prudent measures to provide extra protection to the public after the large outbreak of melioidosis in Sham Shui Po, though there had been no evidence suggesting direct correlation of the melioidosis outbreak with the drinking water supply. Mr CHOY added that the residual chlorine level in drinking water would be kept below 1.5 mg/L as a higher level could lead to taste or odour issue.

7. In response to a Member's enquiry on the cost of implementing Water Safety Plan for Buildings ("WSPB"), Mr Johnson LEE, Chief Engineer/Technical

Support of WSD, elaborated that the Government had launched a Water Safety Plan Subsidy Scheme (“WSPSS”) to promote the implementation of WSPB in the community through provision of financial incentives to eligible building owners. Based on WSD’s active engagement of a number of property management companies in the past few years to promote WSPSS, he had not received any indication on the need to increase the building management fees due to the implementation of WSPB, as many core activities under WSPB such as regular cleansing of water tanks and maintenance of communal plumbing systems had been already part of the routine building management work.

Agenda Item 4: Enhancement of Chlorination Strategy for Drinking Water Treatment in Hong Kong

8. Mr Jeffrey YU, Chemist/Treatment 4 of WSD, briefed Members about the proposed chlorination strategy to enhance the reliability of chlorination in water treatment through the wider use of sodium hypochlorite (“NaOCl”) solution. Details of the proposal had been included in DWSAC paper no. 2/2025 submitted to the Committee before the meeting.

9. A Member enquired about the occupational safety associated with using chlorine gas for disinfection and the measures in place to safeguard the safety of WSD’s operational staff in case of chlorine gas leakage. Mr TY CHOY, Chief Chemist of WSD, explained that as chlorine was classified as dangerous goods, stringent control was required for its transportation, storage and use. Following the introduction of On-site Generation of Chlorine (“OSCG”) plants in large water treatment works (“WTWs”), both chlorine gas and NaOCl solution could be produced for use in the treatment process. For chlorine gas, it would be fully consumed after production, and no storage was needed. Hence, the potential risk associated with using chlorine for disinfection had been largely reduced. Mr Jerry LI, Senior Mechanical Engineer / On-site Chlorine Generation of WSD, supplemented that an effective chlorine scrubber system had been installed in the OSCG plants to absorb the chlorine gas in case of leakage of chlorine, and an alarm system was also in place to alert the operators of the incident. Thus, the operational risk associated with using chlorine gas was significantly lowered as compared with using liquid chlorine in the past.

[Ms Michelle TANG joined at this juncture.]

10. With the use of NaOCl solution under the sole mode or hybrid mode for chlorination, a Member enquired why the treatment process could be enhanced. Mr TY CHOY, Chief Chemist of WSD, advised that at the moment WSD mainly used chlorine gas produced by the OSCG plants for disinfection. During an emergency breakdown of chlorine gas production by the OSCG plants, it would normally take about 30 minutes to switch to the “NaOCl dosing” mode, which would cause a sudden drop in chlorine level in the treatment process. Thus, the effectiveness of disinfection would be undermined during the breakdown period. However, under the sole mode or hybrid mode, NaOCl solution would be used, and the above switch-over of disinfection agent and hence the transient drop in chlorine level in the treatment process could be avoided, thus enhancing water safety.

11. The Chairperson noted that some Members, especially those new ones appointed in the current term, might be interested in knowing more about the different operational modes of the OSCG plants and suggested a technical visit to an OSCG plant be arranged for the Members.

DEVB/WSD

12. Without further questions and comments, the Chairperson concluded that the Committee welcomed WSD’s proposal to enhance the reliability of chlorination in the water treatment process through wider use of NaOCl solution.

Agenda Item 5: Update on the Commissioning Requirements of New Plumbing Systems

13. Mr Kevin LEE briefed the Members on the updated commissioning requirements of new plumbing systems. He also introduced a simplified flushing protocol issued via WSD Circular Letter No. 10/2024, which required only one flushing cycle for stainless steel plumbing systems that complied with specified material requirements.

[Dr David CUNLIFFE joined at this juncture.]

14. A Member noted that the volume of water used under the simplified flushing protocol would be significantly reduced and asked if such protocol could be extended to non-stainless steel plumbing systems. Mr Kevin LEE responded that the simplified flushing protocol was only applicable to stainless steel plumbing systems which demonstrated satisfactory laboratory test results for six metals after 6-hour stagnation (“6HS”) with lead contents far below the standard value of 10

µg/L. He added that for lead free plumbing products and GA* products with low metal leaching rates, their 6HS laboratory test results were not satisfactory. Hence, the simplified flushing protocol could not be adopted for non-stainless steel plumbing systems. In response to a Member's enquiry as to why "lead free" plumbing components would yield unsatisfactory test results in respect of lead content, Mr TY CHOY explained that the so-called "lead free" materials was a common term used in some countries to indicate materials with no lead or very low lead content, in particular brass fittings and fixtures of low lead-leaching type for plumbing. For instance, in the United States, "lead free" products were allowed to have a lead content (weighted average) of not more than of 0.25%. A Member echoed that the same definition for "lead free" plumbing products had been adopted in Australia.

15. A Member enquired whether the test results for lead would yield a higher value when stainless steel plumbing components were subject to a longer stagnation period of more than 6 hours. Mr Kevin LEE replied that the test results would unlikely yield a higher lead content as lead was not an ingredient for manufacturing stainless steel. Mr Roger WONG, Director of Water Supplies, advised that the 6HS water sampling test was one of the commissioning requirements of new plumbing systems and hence it had been adopted as a benchmark in the said laboratory tests. Mr TY CHOY further supplemented that the type of stainless steel materials approved by WSD for use in plumbing contained no lead and generally had an oxide layer formed during their manufacturing, which protected them from metal leaching. The presence of lead in the laboratory tests might have come from copper alloy possibly contained in water taps instead of the stainless steel pipework.

16. A Member expressed that stainless steel as compared with copper alloy carried a higher carbon footprint and hence it might not be advisable to advocate wider use of stainless steel plumbing materials from the environmental protection point of view. Mr Roger WONG responded that given the fact that a considerable volume of water could be saved for flushing the stainless steel plumbing systems under the simplified flushing protocol, he opined that it helped balance the environmental concern as raised. He added that the use of stainless steel plumbing materials was in fact not new to the plumbing trade and leading jurisdictions such as Japan and the Mainland had been using stainless steel plumbing materials for many years. Another Member shared that in addition to the saving in water consumption during the flushing process, there was also a huge saving in manpower resources in particular when the plumbing system failed to pass the compliance tests in one go. Furthermore, he advised that water safety

risks would be much lower for stainless steel plumbing system as no soldering was needed for jointing stainless steel pipes.

Agenda Item 5: Summary on International and Local Water Quality Incidents

17. Mr Dick TSOI gave a brief account of WSD’s review on three overseas water quality incidents happened during the period from April to December 2024. Members raised no specific comments on the incidents.

18. A Member shared the issue of per- and polyfluorinated alkyl substances (“PFAS”) contamination and outbreak of melioidosis infection cases in Australia. Mr TY CHOY advised that WSD had been monitoring perfluorooctanoic acid (“PFOA”) and perfluorooctanesulfonic acid (“PFOS”) since 2013 and so far, their level in drinking water had been very low. WSD had also set up a dedicated webpage to provide more information to the public about PFAS and the control of PFOA and PFOS in Hong Kong. As for melioidosis, Mr TY CHOY reiterated that there was no evidence to indicate drinking water was a source of the infection cases during its outbreak in 2022. With the implementation of a series of precautionary measures including increasing residual chlorine level, no outbreaks were found afterwards.

Agenda Item 6: Any Other Business

19. A Member stated that the 60th anniversary of Dongjiang Water Supply to Hong Kong was a huge success and suggested a visit to the Dongjiang water supply facilities be arranged for the Committee. **DEVB/WSD**

20. There being no other business, the meeting adjourned at 11:50 a.m.