

**Advisory Committee on Water Supplies (2018-2020)**  
**Minutes of Sixth Meeting**

**Date:** 30 October 2019 (Wednesday)

**Time:** 2:00 p.m.

**Venue:** Room 4819, Water Supplies Department, 48/F, Immigration Tower,  
7 Gloucester Road, Wan Chai, Hong Kong

**Present**

Ir Dr CHAN Hon Fai	Chairman
Prof. KWAN Kai Cho, Joseph	Vice-Chairman
Mr. LAU Che Feng, Edwin	Working Group Chairman
Mr. TAM Kwok Wing, Ivan	Working Group Chairman
Sr Prof. WONG Bay	Working Group Vice-Chairman
Ir NG Chun Keung	Working Group Vice-Chairman
Prof. CHAN Yan Keung, Thomas	Member
Prof. CHU Wei	Member
Dr HO Shu Kwong, Raymond	Member
Dr LAU Wai Neng, Michael	Member
Dr WONG Siu Wing, Eric	Member
Dr WONG TAAM Chi Woon, Vivian	Member
Mr. YEUNG Wai Sing	Member
Mr. CHAN Tak Yeung, Thomas	Member (Development Bureau)
Mr. MAK Ka Chun	Member (Architectural Services Department)
Mr. CHEN Che Kong	Member (Environmental Protection Department)
Dr POON Kwok Ming	Member's representative (Department of Health)
Mr. CHAN Yiu Keung, Oliver	Member (Housing Department)
Mr. WONG Chung Leung	Member (Water Supplies Department)
Mr. LAW Yuk Fat, Robin	Secretary (Water Supplies Department)

**Water Supplies Department Representatives in Attendance**

Mr. WONG Yan Lok, Roger	Assistant Director
Mr. KWOK Yau Ting, Kelvin	Chief Chemist
Mr. YIP Ka Chun, Gary	Chief Engineer
Mr. CHAN Kwok Fai, Raymond	Senior Engineer
Mr. KU Kwok Pun	Senior Engineer
Mr. LAM Ping Wah	Senior Engineer
Mr. LAU Cheuk Fung Calvin	Senior Engineer
Mr. LEE Kwun Chung, Johnson	Senior Engineer
Mr. LO Tsz Lung, Warren	Senior Engineer
Mr. WONG Man Kei, David	Senior Engineer

Mr. KEI Chun Fai, Freeman	Engineer
Ms. TSANG Hiu Sum, Musa	Engineer
Mr. YEUNG Chun Kit, Will	Engineer
Ms. TAM Ka Yan, Yan	Engineer (Note-Taker)

### **Absent with Apologies**

Prof. WONG Wing Tak	Working Group Chairman
Ms. WONG Chi Shun, Carol	Working Group Vice-Chairman
Prof. CHENG Man Chung, Daniel	Member
Prof. CHIU Pauline	Member
Prof. WU Xun	Member
Ms. LEE Pik Yee, Peggy	Member
Ms. KAM Kin	Member
Mr. WONG Kwun Kit, William	Member

### **Item**

#### **1. Opening Remarks**

- 1.1 The Chairman welcomed all Members of Advisory Committee on Water Supplies (“ACWS”) and representatives of Water Supplies Department (“WSD”) to the meeting.
- 1.2 The Chairman informed the meeting that Prof. WONG Wing Tak, Ms. WONG Chi Shun, Carol, Prof. CHENG Man Chung, Daniel, Prof. CHIU Pauline, Prof. WU Xun, Ms. LEE Pik Yee, Peggy Ms. KAM Kin and Mr. WONG Kwun Kit, William were unable to attend the meeting and had sent in their apologies.

### **Agenda Items**

#### **2. Confirmation of Minutes of Last Meeting**

- 2.1 The Chairman advised that the revised draft minutes for last meeting, which had incorporated Members’ comments, had been re-circulated to the Members on 28 October 2019 with no further comment received. There being no further amendment proposed at the meeting, the revised draft minutes were confirmed.

### **3. Matters Arising**

#### **Proposed Visit to Dongjiang Water Supply System 2019**

- 3.1 Referring to the item 10.1 of the minutes of last meeting, the Secretary reported that the visit this year would be held on 26-27 November 2019. The Secretary advised that invitation emails were sent out to Members on 5 September 2019 and 4 October 2019 and 11 Members had indicated that they would join the visit so far. WSD would brief Members on the details of the visit in the last agenda item of this meeting.

### **4. Report of Working Group on Operational Matters**

- 4.1 The Chairman invited Sr Prof. WONG Bay, Vice-Chairman of the Working Group (“WG”) on Operational Matters, to report the key issues discussed in the 5<sup>th</sup> WG meeting held on 23 September 2019.

#### **Consultancy Study on Tackling Detachment of Internal Bitumen Lining in Fresh Water Pipes**

- 4.2 Sr Prof. WONG reported the following:
- WSD briefed WG Members on the background and objectives of the consultancy study which commenced in February 2019. The health specialists engaged by the consultants considered that the bituminous materials of the internal bitumen lining of fresh water steel pipes did not contain any substance harmful to health and, hence, would not affect the safety of drinking water. In the interim finding of the consultancy study, the consultants had proposed a detachment mechanism of bitumen lining from the steel pipes and various tests on bitumen-lined steel pipe samples would be conducted in the consultancy study to verify the proposed detachment mechanism.
  - WSD added that the consultants would further develop long-term strategies for tackling detachment of bitumen lining in fresh water steel pipes, including their replacement or rehabilitation. In the short-term strategy, WSD would install strainers at the concerned water supply networks to prevent detached bitumen lining particles from entering into the internal plumbing systems of the customers. WSD would regularly

cleanse these strainers and conduct regular flushing to the concerned water mains if necessary.

- Some WG Members enquired whether there were similar researches available overseas on risk quantification of lining conditions of fresh water steel pipes for reference. WSD replied that the consultants had conducted a desktop study and did not find any overseas research on this topic.

4.3 The Chairman enquired about the maintenance of the strainers. Mr. WONG Chung Leung of WSD replied that the WSD staff in night shift would normally be deployed to carry out inspection and cleansing of the strainers during the night time so as to minimise the inconvenience caused to the residents due to the suspension of water supply for the inspection and cleansing of the strainers.

4.4 Sr Prof. Wong Bay suggested using on-line monitoring techniques to detect the presence of bitumen lining particles in fresh water mains. The Chairman added that installation of turbidity sensors in small-sized water mains might help identify problematic pipes with detachment of bitumen lining. Mr. WONG Chung Leung of WSD welcomed these suggestions and WSD would refer the suggestions to the consultants for consideration in the consultancy study.

#### **Experience Sharing in Handling Request on Improvement of Flushing Water Quality**

4.5 Sr Prof. WONG reported the following:

- WSD shared the experience in handling requests for improving flushing water quality in a housing estate in the Southern District. Following the conversion to salt water for flushing in 2014, the residents at the housing estate raised requests repeatedly for improving the quality of flushing water. The WSD had carried out thorough investigation on the internal flushing water supply system of the housing estate to ascertain the causes of problem. It was concluded that the poor flushing water quality in the housing estate was caused by the stagnation of flushing water arising from low usage in the toilets of some units and the rusting of pipes, fittings and pumps of its internal flushing water supply system. Apart from closely monitoring the salt water supply to the housing estate, WSD also gave recommendations to the management office of the housing estate to

improve the operation and maintenance of its internal flushing supply system. The residents and management office of the housing estate appreciated the efforts and support provided by WSD.

- WG Members enquired whether there was any method or study on neutralizing the free chloride content in salt water so as to minimize its corrosivity to concrete structural elements and ferrous pipes and fittings. WSD informed the WG Members that a study was being undertaken by a HKU research team to explore solutions to reduce the corrosivity and aggressiveness of the salt water supply such as dosing of lime or other additives.
- WG Members welcomed the actions taken by WSD to assist the residents and management office of the housing estate to resolve its flushing water quality issue.

## **5. Report of Working Group on Government Network and Inside Services**

- 5.1 The Chairman invited Mr. TAM Kwok Wing, Ivan, Chairman of the WG on Government Network and Inside Service, to report the key issues discussed in the 5<sup>th</sup> WG meeting held on 17 September 2019.

### **Development of Leak Detection Trade**

- 5.2 Mr. Ivan TAM reported the following:
- WSD reported that three classes of “Certificate Course on Leak Detection in Water Mains” had been organized by the Hong Kong Institute of Construction (“HKIC”) since April 2019, and expected that one more class would be organised by end 2019. WSD also revealed their plan to include the HKIC’s certificate as a mandatory requirement for personnel engaged by WSD contractors for carrying out leak detection of water mains. WSD further reported that they had been working with HKIC to develop the curriculum and organise the training course at managerial level for tackling water loss in water supply system.
  - WG Members appreciated that WSD had taken active steps towards the development of leak detection trade and enquired about the assessment in the certificate course for the students. WSD advised that the assessment included written examination and practical assessment. The course had been designed to benchmark as Level 3 under the Qualification

Framework.

- WG Members opined that WSD should duly consider the availability of certificate holders in the market before imposing the mandatory requirement of holding HKIC's certificate for the personnel engaged for leak detection of water mains in WSD's contracts. WSD agreed to closely monitor the availability of certificate holders in the market and would include such requirement in WSD's contracts progressively.

5.3 The Chairman enquired whether there had been any briefing sessions for the property management sector on leak detection of underground water mains in internal plumbing system. WSD advised that two introductory workshops on the subject were held in August 2019 for 13 property management companies and 7 government departments and another series of workshops would be arranged in late 2019/early 2020.

***[Post-meeting note:***

*Two additional introductory workshops were organised on 18 December 2019 and 15 January 2020. In total, 90 representatives from 24 property management companies and 7 government departments attended the four workshops.]*

5.4 WSD supplemented that they were liaising with Home Affairs Department to identify appropriate platforms to promote proper maintenance of internal plumbing systems including leak detection of underground water mains for the property owners and property management companies.

**Membership of Leak Detection Contractors of the Hong Kong Institute of Utility Specialists**

5.5 Mr. Ivan TAM reported the following:

- The Hong Kong Institute of Utility Specialists ("HKIUS") had been invited to the WG meeting to introduce their membership structure and the requirement for leak detection practitioners to register as a Corporate Member in their Water Leakage Detection and Control ("WLD") Discipline. HKIUS also introduced their list of Corporate Company Members in WLD Discipline and explained their mechanism in handling complaints and misconducts of their members.
- WG Members appreciated the role of HKIUS in the development of leak detection trade and the advisory service provided by it. WG Members suggested WSD to work closely with HKIUS in development of the leak

detection trade. WSD advised that they would consider including in WSD's website a referral link to HKIUS's list of Corporate Company Members for reference by the property owners/management offices when engaging contractors for investigation of underground water mains leak in their internal plumbing systems.

### **Review of Work Plan of the Working Group**

5.6 Mr. Ivan TAM reported the following:

- The Work Plan of the WG was reviewed during the WG meeting. WG Members appreciated WSD's efforts in the development of leak detection trade including the collaboration with relevant professional institutes and universities. WG Members also suggested that WSD could brief the WG on the advanced technologies used by WSD in water loss management.

## **6. Report of Working Group on Water Conservation and Education**

6.1 The Chairman invited Mr. LAU Che Feng, Edwin, Chairman of the WG on Water Conservation and Education, to report the key issues discussed at the 5<sup>th</sup> WG meeting held on 18 September 2019.

### **“Cherish Water Campus” Integrated Education Programme**

6.2 Mr. Edwin LAU reported the following:

- For primary schools, 4 sessions of Teacher Training Workshop were held for the introduction of the newly revamped teaching kit in June and July 2019. WSD also presented the revamped teaching kit to the WG including the lesson plans, working sheets, electronic games, suggested activities and teaching videos. The revamped teaching kit was welcomed by the WG Members. WSD targeted to introduce the revamped teaching kit to all primary schools by October 2019. The 4th Award Ceremony of the Integrated Education Programme (“I|EP”) was scheduled for 20 December 2019 at Hang Hau Community Hall for commending the contributions and efforts of the schools, principals, teachers and student on water conservation in the past school year.
- For kindergartens, “Save Every Drop” Parent-child Colouring Competition was held in this school year. Awards for the competition would also be presented in the 4th IEP Award Ceremony.

### **Water Resources Education Centre - H2OPE Centre**

6.3 Mr. Edwin LAU reported the following:

- The fitting out work for the H2OPE Centre was near completion. The Centre was soft launched in October 2019 and ACWS Members were invited to visit the H2OPE Centre on 10 October 2019. Schools and other organisations were also invited to visit the Centre after the soft launch. The formal opening ceremony of the Centre would be held in December 2019.

### **Mandatory Water Efficiency Labelling Scheme**

6.4 Mr. Edwin LAU reported the following:

- Regarding the proposed mandatory Water Efficiency Labelling Scheme (“WELS”) via amendments to the Waterworks Ordinance, the relevant Business Impact Assessment (“BIA”) study was in progress. The BIA consultant was conducting the second round of stakeholder consultation for completion in end October 2019.

6.5 The Chairman enquired whether the result of the second round of stakeholder consultation had been announced. WSD advised that the consultation findings was being consolidated.

### **“Let’s Save 10L Water” Campaign 2.0**

6.6 Mr. Edwin LAU reported the following:

- For flow controller installation at private housing estates, WSD had liaised with the Hong Kong Association of Property Management Companies to implement the flow controller installation programme at 10 private housing estates, together with exhibition on water conservation, water loss management and games. The programme commenced on 28 October 2019.
- For flow controller installation at private schools, about 2,200 flow controllers had been installed for the taps at 174 kindergartens as at September 2019.

Federation of Hong Kong Industries had been selected as service provider for the showerhead design competition - “Innovative Water Efficient Showerhead Design Competition” (創新節水花灑頭設計大賽). The competition was targeted to be launched in November 2019 and closed in March 2020, and the award ceremony would be held in June 2020. Details of the competition were being worked out.



### **Cherish Water Chef Recognition Programme**

6.7 Mr. Edwin LAU reported the following:

- WSD would co-organise with Green Earth to launch the “Cherish Water Chef Recognition Programme” in around Q2 2020. The programme would provide training and workshops to chefs to promote the importance of cherishing water in their workplaces. Consultation of the catering trade on the programme was in progress.

### **Consultancy for Flow Controller Installation Programme at Public Housing Estates**

6.8 Mr. Edwin LAU reported the following:

- To expedite the progress of the flow controller installation works at public rental housing and improve the success rate, WSD had commissioned a consultancy to develop an implementation strategy to engage designated term contractor for installation of the flow controllers at eight selected public rental housing estates as a trial. The strategy included (a) strengthening on-site promotion of the installation of flow controllers to the residents (e.g. promotion booth, hotline, posters); (b) allowing contractor to design and implement their promotional activities; and (c) performance-based remuneration to the contractor linking with the success rate in the installation of flow controllers. The proposal was supported by the WG Members.

## **7. Implementation of Recycled Water Projects in WSD**

7.1 Mr. CHAN Kwok Fai, Raymond, Ms. TSANG Hiu Sum, Musa and Mr. KEI Chun Fai, Freeman of WSD gave a presentation on “Implementation of Recycled Water Projects in WSD”.

7.2 The Chairman enquired about the imposition of the requirement of installing grey water collection system in developments. WSD advised that the requirement had been included in the land documents (for private developments) and project scopes (for public and government developments) in the Anderson Road Quarry Site Development Area and no particular difficulties in implementing the requirements had been raised by the developers or other government departments so far. WSD added that grey water collection systems were installed in an existing housing estate in Tseung Kwan O with no problem such as blockage of sewerage pipes reported.

- 7.3 Prof. KWAN Kai Cho, Joseph enquired whether centralised or building-based grey water recycling system was more preferable in regard to the economical and technical aspects. Mr. WONG Chung Leung of WSD advised that the adoption of either of these options had to be considered case-by-case with respect to the geographical location of the development area, cost and maintenance of the grey water recycling system, etc. He added that WSD would gain more experience in centralised grey water recycling system from the pilot project in Anderson Road Quarry Site Development Area. The Chairman opined that centralised grey water treatment plant would be generally better than scattered grey water treatment plants in individual buildings from maintenance point of view.
- 7.4 Dr HO Shu Kwong, Raymond appreciated that WSD and its consultant had extensively engaged and explained the mainlaying works for supply of reclaimed water in details to the residents in Sheung Shui and Fanling areas. He also enquired about the usage of the space at the rooftop of the proposed water reclamation plant at Shek Wu Hui. Mr. WONG Chung Leung of WSD advised that the use of the rooftop of the reclamation plant would be reviewed holistically with the development of the adjacent Shek Wu Hui Sewage Treatment Works of the Drainage Services Department.
- 7.5 Mr. MAK Ka Chun of Architectural Services Department enquired whether it was appropriate to use recycled water with addition of chlorine for irrigation. WSD advised that currently potable water with residual chlorine was also used for landscape irrigation in Hong Kong.
- 7.6 In response to the enquiry of the Chairman, WSD explained that food grade blue dye would be added to the recycled water to prevent inadvertent cross connection of recycled water mains and fresh water mains.

## **8. Overview of Cavern Projects in Water Supplies Department**

- 8.1 Mr. YEUNG Chun Kit, Will of WSD gave a presentation on “Overview of Cavern Projects in WSD”.
- 8.2 The Vice-Chairman enquired about the ventilation in cavern projects. WSD advised that there would be monitoring system to ensure adequate ventilation inside the caverns.

- 8.3 The Chairman supported the development of cavern projects as the sites after relocation of the waterworks facilities could be put to other gainful uses.

**9. ACWS Technical Visits to H2OPE Centre, Tai Po Water Treatment Works and Floating Photovoltaic System at Plover Cove Reservoir**

- 9.1 Ms. TAM Ka Yan, Yan of WSD reported on the ACWS Visits to H2OPE Centre, Tai Po Water Treatment Works and Floating Photovoltaic System at Plover Cove Reservoir on 10 October 2019. Members appreciated the efforts of WSD in organising such visits which were informative and enlightening.

**10. Visit to Dongjiang Water Supply System 2019**

- 10.1 The Secretary briefed the meeting on the tentative itinerary of the Visit to Dongjiang (“DJ”) Water Supply System 2019 to be held on 26 to 27 November 2019. The Chairman strongly encouraged Members to join the visit to deepen the understanding of the latest situation on the supply of DJ water to Hong Kong.

**11. Any Other Business**

- 11.1 The Chairman noticed that a new subsidy scheme for implementation of Water Safety Plan for Buildings (“WSPB”) was announced in the Policy Address 2019. Mr. WONG Chung Leung of WSD advised Members that the Government planned to provide financial assistance to incentivise eligible property owners to implement WSPB for their buildings. He added that the Members would be provided with more details of the subsidy scheme in due course.
- 11.2 There being no other business, the Chairman thanked Members for attending the meeting and adjourned the meeting at 5:00 p.m.