# Advisory Committee on the Quality of Water Supplies
# Minutes of the 6th Meeting

Date: 4 April 2002 (Thursday)
Time: 9:30 a.m.
Venue: Conference Room, 48/F, Immigration Tower, Wan Chai, Hong Kong

**Members Present**

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| Mr. FANG Hung, Kenneth | Chairman, Hong Kong Productivity Council |
| Mr. CHAN Pui Wah | Vice-Chairman, Director of Water Supplies (Atg) |
| Ms. CHEUNG Lai Ping, Lister | The Conservancy Association |
| Dr. CHEUNG Yun Hing, Richard | City University of Hong Kong |
| Dr. HO Kin Chung | Open University of Hong Kong |
| Prof. LAM Kin Che | The Chinese University of Hong Kong |
| Mr. WONG Kwok Keung | Hong Kong Plumbing and Sanitary Ware Trade Association |
| Mr. CHEUNG Yan Hong | Wong Tai Sin District Council |
| Ms. CHOW Kit Bing, Jennifer | Eastern District Council |
| Dr. LAM Ching Choi | Haven of Hope Christian Service |
| Mr. LAW Wei Tak, Victor | The Hong Kong Federation of Electrical and Mechanical Contractors Limited |
| Prof. TSO Wung Wai | The Chinese University of Hong Kong |
| Dr. CHIU Tak Lun, Michael | Assistant Director, Environmental Protection Department |
| Mr. CHOU Wing Ping, Frankie | Assistant Secretary, Works Bureau |
| Dr. TSE Lai Yin | Consultant, Department of Health |
| Mr. WONG Bay | Assistant Director, Housing Department |
| Mr. LAU Chi Ming, Stephen | Secretary, Senior Engineer, Water Supplies Department |

**Members Absent with Apologies**

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| Mr. WU Sai Him, Hugh | The Hong Kong Institution of Engineers |
| Ms. CHUI Pui Man, Wendy | Islands District Council |
| Ms. LO Yuet Yee, Rhonda | Assistant Director, Food and Environmental Hygiene Department |

**In Attendance**

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| Mr. KU Chi Chung, Damien | Assistant Director, Water Supplies Department |
| Mr. CHAN Kwong Wei | Assistant Director, Water Supplies Department |

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| Mr. CHEUNG Tze Leung | Chief Chemist, Water Supplies Department |
| Mr. TAM Yat Hung | Senior Engineer, Water Supplies Department |

**In Attendance for Agenda Item 3**

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| Mr. CHAU Chi Wai, David | Assistant Director (Atg), Water Supplies Department |
| Mr. MAK Sai King | Senior Engineer, Water Supplies Department |

**Item** **Action**

**1.** The Chairman welcomed the new Members, Mr. CHEUNG Yan Hong, Ms. CHOW Kit Bing, Jennifer, Dr. LAM Ching Choi, Mr. LAW Wei Tak, Victor and Prof. TSO Wung Wai for attending the meeting of the Advisory Committee on the Quality of Water Supplies (ACQWS) for the first time. He added that this meeting was the first meeting of the second two-year term of the ACQWS. He then extended his welcome to all other Members, and also to the representatives from the Water Supplies Department (WSD).

**2.** As there were many new faces in this meeting, all participants took turn to introduce themselves. After that, the Chairman briefly introduced the work of the ACQWS.

**3.** The Chairman advised that similar to previous meetings, a short media briefing session would be held at the conclusion of the meeting and invited Members to join the briefing.

**4.** **Agenda Item 1 : Confirmation of Minutes of the Last Meeting**

The minutes were confirmed with the following amendment:-

Item 6.10 – line 6: "newly completed" should read "newly replumbed".
Item 6.11 – line 2: "newly completed" should read "newly replumbed".

**Agenda Item 2 : Matters Arising**

**5. Site Visits**

5.1 There had been some public concerns in Hong Kong that the water of inferior quality from Shima River could be sucked into the Taiyuan Pumping Station intake. In this connection, a simple flow test was carried out by some Members during the visit to Taiyuan Pumping Station on 12 September 2001. From the observations on site, Members expressed that they could not see the possibility for the water discharged from Shima River to be sucked into the Taiyuan Pumping Station intake at that moment. Nevertheless, the flow test on 12 September 2001, being an ad hoc one, was not carried out under the most critical conditions. Hence, WSD requested the Guangdong Authority to arrange another flow test on 27 December 2001 under the most critical conditions. Some Members had earlier expressed interest to witness the test. However, due to unforeseeable commitments and personal reasons, they were eventually unable to join the visit. Four representatives from WSD led by Mr. KU Chi Chung had witnessed the flow test and a report on the test had been distributed to Members in February 2002.

5.2 Mr. KU then presented the result of the flow test and concluded that it was physically impossible for the water discharged from Shima River to reach a point some 350m upstream along Dongjiang and to be sucked into the intake of Taiyuan Pumping Station.

**6. Quality of Water in Buildings**
**Progress Report No. 1 of Working Group on Quality of Water in Buildings**

6.1 The Chairman informed that a Working Group on Quality of Water in Buildings (WGQWB) was formed in February 2002 under the chairmanship of Prof. LAM Kin Che and the Working Group had already held the first meeting in February 2002. The Chairman of the WGQWB then presented Progress Report No. 1 of the Working Group, which had already been distributed before the meeting.

6.2 The Chairman advocated that the government should make more effort to promote building maintenance and give recognition to developments, buildings and hotels, in which the water supply had achieved the 'fit to drink direct from tap' standard. As a world city, Hong Kong should seek to be comparable to the major American and European cities in achieving the standard. He noted that the neighbouring city, Guangzhou, had planned to improve the quality of their water supply for direct drinking in 3 to 5 years.

6.3 The Vice-Chairman agreed that greater effort had to be done citing some local hotels still put up notice that Hong Kong's tap water unfit to drink direct. He felt disappointed to note that good quality water provided by the public water supply system got contaminated by the poor plumbing systems inside buildings and hence became unfit to drink direct from the tap. He noted that the Working Group would implement a two-stage programme to achieve the 'fit to drink direct from the tap' objective and assured that WSD would give full support to implement the Working Group's recommendations.

6.4 A Member added that apart from the hotel industry, the beverage and catering services should be an important target for the recognition scheme. She pointed out that funding was often a problem for building maintenance and this could jeopardize the progress in replumbing in private estates. She suggested that more publicity, promotions or subsidies should be channelled to rally residents' support to replumbing. She also reminded that the promotion campaign should clarify the misleading message advertised by suppliers of bottled-water and water-filters that tap water was unsuitable for direct consumption.

6.5 A Member expressed that clean water and good taste water might not be the same thing. Citing his experience of tasting the raw water at Ngau Tam Mei Water Treatment Works, he noticed that the semi-treated raw water though looked as clean as pure water, still carried a trace of residual taste. This taste moiety apparently was too dilute to be harmful. Since taste acceptance level varied among individuals and the science of taste was complicated, he suggested

that we should adhere to an accepted universal water standard and let the public concern be eased by science popularisation.

6.6 A Member felt that emphasising hotels in the publicity should be carefully planned to avoid giving a wrong perception to the public that tourists were better treated. She suggested that the publicity should stress on the importance of building maintenance. She also suggested that the publicity should also target at schools. Once students were comfortable to drink direct from the tap at school and were educated the causal link between good building maintenance and good drinking water quality, they would carry this learnt message home and help the promotion. However, she noted that government assistance might be needed to help schools to improve their plumbing systems. The Chairman supported the Member proposal and commented that the government should be able to do its part in the school building maintenance programme.

6.7 A Member commented that the improvement work needed was substantial and should start with the public sector and followed by the private sector. He anticipated that a lot of district work would be needed to engage the private sector to join the recognition scheme. He opined that district councillors and the Home Affair's Department should take part in the district work.

6.8 In response, the Housing Department (HD) reiterated that the HD had begun the renewal of water pipelines inside public housing estates since the amendment of the Waterworks Ordinance in 1995 banning the use of galvanised iron water pipes. HD had drawn up a long-term schedule to renew plumbing of existing housing estates after a survey of their conditions. Of the 900 buildings identified in the survey, more than half had already completed plumbing renewal. HD estimated that the remaining work would be completed in 8-9 years time. HD assured Members that HD would give full support to the scheme and would continue to take up the leading role in the public sector.

6.9 In response to the Chairman's enquiry, WSD advised that water samples were taken for testing from seven public housing estates, of

which five had the replumbing work completed but the remaining two had not. The test results showed that all water samples collected from the five estates were satisfactory but one sample from each of the other two estates was found to exhibit slightly higher turbidity and iron level. The results illustrated the importance of building maintenance to water quality. The Vice-Chairman clarified that the two water samples still complied with the WHO guidelines but people naturally resist consuming turbid and discoloured water.

6.10 Referring to the discussions in the last meeting, the Environmental Protection Department (EPD) requested clarification on the promotion strategy and reminded that an expiry date should be indicated in the certificates. The Vice-Chairman clarified that the promotion campaign would focus on telling the public that our water supply was fit for drinking direct if the plumbing is properly maintained, rather than encouraging or forcing the public to drink direct from the tap.

6.11 A Member worried that advertisement and education might not be enough to rally the support from the public because of cost and resources considerations. He emphasised that laboratory tests were essential for the consumers to gain confidence on the water quality. He suggested that WSD could help the public to test water samples at a reasonable price.

6.12 The Vice-Chairman responded that when the proposed scheme was implemented, the number of qualified laboratories would increase and competition among them would eventually help reduce the price they would charge. He promised that WSD would help to promote more laboratory services in the private sector.

6.13 WSD supplemented that laboratory testing could be very expensive. WSD currently analysed for about 120 parameters in water samples. The World Health Organisation planned to increase the number of health parameters from 94 in the current Guidelines for Drinking-water Quality to about 120 some time in 2002. WSD would then be required to identify resources to analyse for about 150

parameters. With limited resources, it would be difficult for WSD to carry out further analyses for the public in addition to its current and anticipated workload. WSD also recommended that suitably equipped and competently staffed tertiary educational institutions could play an important role to provide the service to the public.

6.14 A Member reminded that test results would be affected by the sampling procedures and had reservation for WSD to accept samples from members of the public, whose motive might be questionable.

6.15 A Member opined that there was no need to change the thinking of the public overnight or even to press them to drink direct from the tap or to change their drinking habit. Notwithstanding this, laboratory testing was essential to ensure the quality of water in a building, which might be concerned by some of the tenants in the building. He suggested that the parameters requiring attention in buildings should be identified or shortlisted, to minimise the testing cost so that it would be affordable to the general public.

6.16 The Vice-Chairman reiterated that the estimated recurrent cost for cleaning of water tanks and water quality testing was about $100 to $124 per flat per year and was only a small amount. WSD added that the monitoring programme of WSD had been developed based on the principle that more important parameters were tested more frequently while others less frequently.

6.17 The Department of Health (DH) commented that there should not be too much emphasis on laboratory testing as this might not be the only way to convince the public on water quality. She pointed out that when people ate fresh fruit or cooked food in the street, they would not question the quality or ask for laboratory testing results. The most important thing was that there was a comprehensive monitoring system. The strategy should therefore focus on telling the public that the water was fit for drinking and there was a good monitoring system. DH commented that inaccurate or incorrect interpretation of the test results might mislead the public.

| Item | | Action |
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| 6.18 | A Member informed that in some area of new building projects, licensed plumbers were required to arrange sampling by WSD staff and testing for a few parameters only. One such sample would cost about $2,200. | |
| 6.19 | Another Member concurred that too much emphasis on sampling and testing might lift people's expectation and might be a wrong direction. In fact, the general public had no knowledge on the methodology of water sampling or analysis and was easily affected by media reports on water quality. It was therefore important to find out people's concern before formulating the strategy of publicity and education to increase their understanding of the problem and their role in ensuring good quality of water in their buildings. | |
| 6.20 | A Member noted that WSD had already campaigned that their water was fit to drink direct from tap in the pamphlet tabled in the meeting. He pointed out that water fountains had been installed and used by the general public in places like the Hong Kong Exhibition and Convention Centre, and suggested that more publicity should be done on these. | |
| 6.21 | A Member suggested that the initial campaign should advocate that 'our water is fit for drinking direct from the tap' and the long term campaign should advocate 'our water is good, please feel at ease to drink direct from the tap'. She added that pamphlets giving simple guidelines towards achieving Water Quality Recognition should be distributed to estate management offices. | |
| 6.22 | The Chairman of the WGQWB expressed his thanks to Members for their valuable comments and views, and that the Working Group would follow up. | WGQWB |
| **7.** | **Publication of Water Quality Data – 2002**<br>**ACQWS Paper No. 11** | |
| 7.1 | As resolved after considering ACQWS Paper Nos. 2 and 4, WSD would publish water quality data annually on the WSD Internet | |

| Item | | Action |
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| | Homepage. The Chairman invited WSD to present the plan for the forthcoming release in July 2002. | WSD |
| 7.2 | After the presentation, a Member advised that there were comments that the current Internet publication was hard to understand and suggested that more footnotes should be provided to explain the meaning of the water quality data in simple terms. WSD acknowledged that people's understanding of the subject might vary depending on their background and hence the explanation required. Based on past records of enquiries, WSD did find that some people wished to have additional information. All such enquiries were handled by WSD staff. WSD considered that the Internet publication should be as reasonably simple as possible and the established channels for public enquiry could provide supplementary information for those who needed clarification. | |
| 7.3 | WSD added that WSD had just received from the Environmental Protection Bureau of Guangdong Province the water quality data of the Dongjiang water sampled near Taiyuan Pumping Station in 2001 and would arrange for its publication as soon as possible. WSD was glad to inform Members that all test results had complied with the national standard, GB 3838-88, Type II. | WSD |
| 7.4 | A Member suggested that the data should be published more frequently to reflect more updated information and should also include water quality data in reservoirs. WSD assured that WSD monitored the quality of raw water from Dongjiang and from their reservoirs, and water at various stages of water treatment. However, publishing all these data would become a cataclysmic flooding of information and confuse rather than inform the public. With limited resources, it would also be difficult for WSD to release more information or more frequently. WSD added that a time lag in release of data was unavoidable as water sampling, testing, validating and processing of test results would take considerable time, and assured that WSD would strive hard to release the updated water quality data soonest possible time. Members agreed that as decided in previous meetings, publication of water quality data would be made on an annual basis in accordance | |

with international practice.

**8. Possible Use of Reservoirs for Recreation**

The Chairman informed that Planning Department's HK2030 Study was still under the Second Stage Public Consultation. Members would be informed of the outcome in due course and this item would be kept in view.

**9. Agenda Item No. 3**
**Strategy for Long-term Fresh Water Resource**
**ACQWS Paper No. 12**

9.1 The Chairman explained that the purpose of the paper was to seek Members' comments on the findings of the study on alternative fresh water resources and the proposed strategy for long-term fresh water resource.

***General***

9.2 After presentation of the paper by WSD, the Chairman suggested WSD to fine tune Appendix 1 to the paper to explain the water demand forecast and the raw water resources for Hong Kong more clearly. WSD

9.3 In response to a Member's enquiry, WSD advised that in the study of alternative fresh water resources, the estimated demand of cooling water in commercial buildings had been taken into account. WSD added that such demand contributed to a very small portion of the total water demand in Hong Kong.

9.4 A Member questioned whether it would be necessary to increase the capacities of local reservoirs to cope with the extension of gathering grounds as proposed and accommodate the anticipated increase in Dongjiang water supply. WSD explained that there was no need to increase the capacity of existing reservoirs because the capacity of the existing reservoirs would be sufficient to maintain uninterrupted supply during the annual one-month shutdown period

for the Dongjiang water supply, which is required for annual maintenance. The Vice-Chairman added that there would also be no need for additional storage for recycling effluent or desalination because the quantity of water so produced would match the demand.

9.5 A Member expressed that Hong Kong should not just rely on Dongjiang water supply from sustainable development point of view. In view of rapid developments in Pearl River Delta, water demand in these areas would increase and Dongjiang water would soon fall short of demand from these areas, including Hong Kong.

***Desalination***

9.6 In response to a Member's query, WSD advised that WSD had studied the sea water quality in the vicinity of Siu Lan Siu and Tseung Kwan O, and found that the sea water quality there was suitable for reverse osmosis desalination. The major problem of building a desalination plant was the availability of suitable land close to the seafront for accommodating the desalination plants and close to consumers.

***Recycling Effluent***

9.7 A Member expressed support of the recycling effluent scheme because the price appeared to be very competitive. WSD clarified that the cost of recycling had excluded the treatment costs of DSD in sewage treatment. WSD also advised that the cost estimate had excluded the cost of land acquisition for housing the recycling plants. In response to the Member's enquiry, the Vice-Chairman advised that from energy conservation point of view, recycling of effluent and desalination would consume much more energy than pumping Dongjiang water supply.

9.8 EPD reminded that as sea water was used for flushing, effluent from sewage treatment plant would have higher salt content and hence the cost of recycling effluent might be higher.

9.9 HD expressed that the draw back of sea water flushing was that it

would cause corrosion to metal pipes and the building structure, and hence incur a heavy burden in building maintenance. HD suggested that alternative flushing water supply should be investigated and requested WSD to consider the use of recycled effluent to replace sea water for flushing in the long term. The Vice-Chairman agreed to consider the proposal. WSD

9.10 WSD also explained to a Member that recycling effluent was a step subsequent to sewage treatment and hence additional land would be needed to build the recycling plant. EPD added that sewage treatment plants in Hong Kong treated both domestic and industrial sewage simultaneously. Land requirement for the recycling plant would depend on the quality and hence the source of effluent.

9.11 A Member suggested that apart from drinking, other possible uses of recycled effluent should be explored. Should the water quality requirements be less stringent, the recycling cost could be further reduced making this alternative more attractive. This would help reducing reliance on Dongjiang water and be more acceptable to the general public. WSD

9.12 WSD replied to a Member that there was only one city in the world that used recycled effluent directly as municipal supply. The city was Windhoek in Namibia in the south-western part of Africa and had used recycled effluent for municipal supply for over 30 years to combat an extreme shortage of water due to climatic and geographical factors. WSD added that most other cities discharged the recycled effluent into lakes or aquifers for further dilution and natural purification before treatment for supply.

9.13 In response to an enquiry from a Member, the Vice-Chairman advised that similar to Hong Kong, Singapore imported raw water from Malaysia and they were also studying desalination and recycling effluent.

***Collecting Surface Water from New Water Gathering Grounds***

9.14 A Member suggested that surface runoff in urban areas could be

collected as a source of raw water supply. He added that this would help eliminating the risk of flooding and become an additional source of raw water supply. The Vice-Chairman responded that the Member's proposal was similar to the options to collect surface water from new water gathering grounds, which was comparatively more expensive than the other alternatives.

***Conclusion***

9.15 Members generally agreed with the paper that Dongjiang water supply was the most viable source of supply under the present situation and supported the proposed strategy for long-term fresh water resource.

**10.** There being no other business, the meeting was adjourned at 11:30 a.m.