

Advisory Committee on the Quality of Water Supplies
Report No. 10 - Visit to Dongjiang Water Supply System
(25 - 27 November 2008)

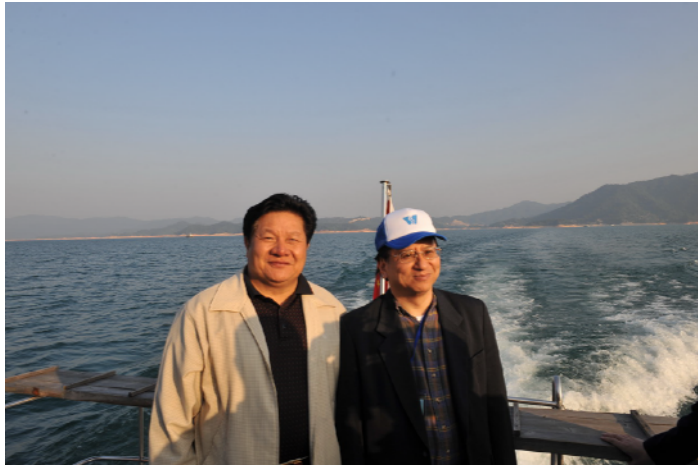
SECTION A - INTRODUCTION

1. The purpose of the 3-day visit on 25 - 27 November 2008 to the Dongjiang Water Supply System and associated facilities was to provide an update of the latest progress and development on protecting the quality of Dongjiang (東江) water made by the Guangdong (廣東) Authorities. The delegation consisted of six unofficial members and three official members of the Advisory Committee on the Quality of Water Supplies (ACQWS) and four Government officials, as detailed in **Annex 1**. The delegation visited the Xinfengjiang Reservoir (新豐江水庫), Huizhou Boluo Sewage Treatment Plant (惠州博羅污水處理廠), Taiyuan Pumping Station (太園抽水站), Shima River Sewage Diversion Project (石馬河調污工程), Qiling Pumping Station (旗嶺泵站), Shishan Open Aqueduct (石山明槽), Dongshen Water Supply Improvement Works Exhibition Centre (東深供水改造工程展覽館), and the Shenzhen Reservoir (深圳水庫) including the Bio-nitrification Plant (生物硝化站), the Control and Monitoring Centre, the Exhibition Centre and the Reservoir Dam. The itinerary is appended at **Annex 2**.

SECTION B – THE VISIT

2. On the first day of the visit, the delegation departed Hong Kong early in the morning and arrived at Heyuan (河源) at around noon. The delegation was received by the Secretary Mr CHEN Jian Hua (河源市委書記陳建華先生) and the Mayor Mr

LIU Xiao Hua (河源市長劉小華先生) of Heyuan who briefed the delegation on the efforts taken by the Heyuan Municipal People's Government in protecting Dongjiang and Xinfengjiang water. Accompanied by the vice Mayor (河源市副市長楊耀初先生), the delegation then visited the



Xinfengjiang Reservoir, also known as Wanlu Lake (萬綠湖), and had the opportunity to take a boat ride on the Reservoir to have a better feel of the quality of water there. Being the largest reservoir

regulating the flow in Dongjiang, Wanlu Lake has a surface area of 370 square kilometers, which is as large as one-third of the area of Hong Kong, and stores about 14 billion cubic meters of water.

The Reservoir is used not only for flood control and hydropower generation, but also as an important water source for the cities in the middle and lower reaches of Dongjiang including Hong Kong and



Shenzhen. The delegation noted the pristine water quality in the Reservoir and appreciated the actions taken by the Heyuan Municipal People's Government to minimise all possible pollution to the Reservoir.

3. In the morning of the second day, the delegation visited the Huizhou Boluo Sewage Treatment Plant. Boluo County is at the southeastern part of Guangdong

Province, the northeastern end of the Pearl River Delta and the northern shore of the middle and downstream of Dongjiang. Covering area of 2,795 square kilometers, it has a population of about 1.2 million with substantial industry and agricultural development. Rapid economic and population growth in these areas has led to increase in production of industrial and domestic wastes resulting in the necessity of



the construction of a treatment plant to ensure that wastes discharged into Dongjiang comply with the relevant standards. The Sewage Treatment Plant is a BOT project operated by the Company (博羅縣城污水處理有限公司) and its

operation is subsidised by the local Government. The operator guided the delegation around the different parts of the Treatment Plant, explaining in detail about operating the Plant and answering to technical questions raised by the delegation. It was noted that the Plant was well managed and the discharges were well within the acceptable limits.

4. In the afternoon of the second day, the delegation travelled to Dongguan (東莞) to visit the Dedicated Aqueduct starting at the Taiyuan Pumping Station. After a briefing about the Dongshen Water Supply



Improvement Works and the Dedicated Aqueduct project, the delegation had a chance to have a closer look at the intake point of the Dedicated Aqueduct and the quality of the Dongjiang water to be delivered to Hong Kong. Taiyuan Pumping Station, as an advance part of the Dedicated Aqueduct project, was constructed in 1998 at the southern shore of Dongjiang several hundred metres upstream of the junction of the Shima River and Dongjiang, a siting chosen to avoid the polluted water from Shima River. The pumping station has five duty and



one standby pumps capable of delivering a flow volume of 100 cubic meters per second. From there, Dongjiang water travels about 60 kilometers through tunnels, viaducts, channels, siphons and three booster pumping stations (at Lianhu (蓮湖), Qiling (旗岭) and Jinghu (金湖)) to the Shenzhen Reservoir.

5. The delegation then visited the Shima River Sewage Diversion Project, during which it was observed that polluted discharges from the Shima River was stopped by a rubber dam and diverted to Zhangzhou (樟州) Sewage Treatment Works, and in this way ceased to pollute the



Dongjiang. Before the completion of this project, there was still a concern of the contaminated water from Shima River back-flowing to the Taiyuan Pumping Station intake. The delegation witnessed that the concern had been satisfactorily addressed.

6. The stop that followed was the Qiling Pumping Station, and then the Shishan Open Aqueduct. The delegation appreciated the scale of the project that was required to bring quality water to Hong Kong and witnessed the maintenance quality of these facilities. Before ending the second day visit, the delegation visited the Dongshen Water Supply Improvement Works Exhibition Centre, where the delegation could also have an overview of the Jinghu Pumping Station and the Jinghu Viaducts downhill. Inside the Exhibition



Centre, the delegation reviewed the history of the Improvement Works and was impressed by the tremendous efforts made by the Guangdong Authorities in helping Hong Kong to resolve its water shortage problem.

7. On the last day of the visit, the delegation travelled to Shenzhen and visited the Bio-nitrification Plant, which receives and treats Dongjiang water from the Dedicated Aqueduct before it enters the Shenzhen



Reservoir. The Bio-nitrification Plant was constructed before the Dedicated Aqueduct project for the purpose of removing the ammonia present in the incoming Dongjiang water. In the Bio-nitrification Plant, the delegation noted that the quality of Dongjiang water received in Shenzhen Reservoir had improved significantly since the commissioning of the Dedicated Aqueduct. Due to the improvement in the water quality, the Bio-nitrification Plant was operated at a lower aeration rate on a need basis to maintain the activity of the nitrifying bacteria in the plant and to increase the dissolved oxygen content of the raw water supplied to Hong Kong. The delegation then visited the Exhibition Centre and took a closer look at the quality of



the Reservoir water from the Reservoir Dam. For effective protection of Dongjiang water, the Guangdong Authorities had installed monitoring and control facilities along the Dedicated Aqueduct and Shenzhen Reservoir. Before ending the trip, the delegation visited the Dongshen Police Command Centre and the Dongshen Water Supply System Monitoring and Control Centre. The delegation was briefed about the security measures adopted for the purpose of protecting the Dedicated Aqueduct and

the Dongjiang water.

8. Upon returning to Hong Kong in the afternoon, a press conference was held in the Headquarters of the Water Supplies Department. After the presentation of a short video highlighting various parts of the visit, attendants were briefed by



the Chairman, Prof HO Kin Chung (何建宗教授) and four members, namely, Dr CHAN Hon Fai (陳漢輝博士), Ms WONG Wai Lan, Luciana (王惠蘭女士), Mr POON Lock Kee, Rocky (潘樂祺先生) and Ms TONG Po Chun (湯寶珍女士) on their observations during the 3-day visit.

SECTION C – CONCLUSION

9. The delegation considered that the visit was very informative and successful. They were impressed by the continuous efforts made by the Guangdong Authorities in combating pollution, protecting the watershed and ensuring the water quality of Dongjiang, especially in the sources and upstream areas. Finally, the delegation appreciated the commitment and efforts of the Guangdong Authorities to accord priority in maintaining a continuous supply of Dongjiang water to meet Hong Kong's demand. They also reminded Hong Kong citizens to be always mindful of the scarce and valuable water resources.