

LEGISLATIVE COUNCIL

PANEL ON DEVELOPMENT

**Request for
Early Discussion About the Water Quality of Dongjiang Water and
Arranging a Site Visit**

At the request of the Chairman of the Development Panel, we set out our response to paragraphs 2 and 3 of the letter dated 11 December 2015 from Dr. Hon. Helena WONG to the Panel Chairman as follows:

On the discovery of Perfluorinated chemicals (PFCs) in water samples

- Citing a Greenpeace report published on 1 December 2015, the media reported that all 10 water samples taken from the five largest impounding reservoirs of Hong Kong had been found to contain perfluorinated chemicals (PFCs), with levels ranging between 1.039 and 15.434 ng/L. These reservoirs are Plover Cove Reservoir, High Island Reservoir, Shek Pik Reservoir, Tam Lam Chung Reservoir and Shing Mun Reservoir.
- Under the Hong Kong Special Administrative Region Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (the Convention), the Water Supplies Department (WSD) started conducting environmental baseline surveys for 12 persistent organic pollutants (POP) in raw water and drinking water and regularly submitted relevant progress reports to the Environmental Protection Department (EPD) since 2006. Subsequently, a total of 10 new POP items were added to the Convention in 2009 and 2011. In light of this development, the WSD started to include these 10 items in its environmental baseline surveys since July 2012, including perfluorooctane sulfonates (PFOS) (a type of PFCs). The sample test results also include data related to perfluorooctanoic acid (PFOA) which is not covered by the Convention. The WSD's monitoring results indicate that the PFOA and PFOS concentrations in raw water (including Dongjiang water and reservoir water) and treated drinking water are both under 0.01 mcg/L (10 ng/L).
- In regard to quality of drinking water, the WSD has formulated water quality objectives for its water supply on the basis of the Guidelines for Drinking-water

Quality of World Health Organisation (WHO Guidelines). However, the 2011 edition of the WHO Guidelines does not set any guideline values for PFCs. We have made reference to the relevant health-based guideline values stipulated by other regulatory institutions. As the present PFOA and PFOS levels in our raw and drinking water are far below the health-based guideline values stipulated by the regulatory institutions concerned, they would not affect the health of the public.

- The Environmental Protection Agency of the United States has stipulated provisional advisory values for PFOA and PFOS, which may have a greater impact on human health. They are set at 0.4 mcg/L (400 ng/L) and 0.2 mcg/L (200 ng/L) respectively.
- The Drinking Water Inspectorate of the United Kingdom has set the same guideline values of 0.3 mcg/L (300 ng/L) for both PFOA and PFOS in drinking water.

On the water quality of Dongjiang Water

- According to the Dongjiang (DJ) Water Supply Agreement, the quality of the water supplied to Hong Kong shall comply with the standards set out for Type II waters in the Environmental Quality Standards for Surface Water (GB3838-2002), which is the highest national standard for surface water applicable for the abstraction for human consumption. According to international practice, the monitoring parameters generally compare the average values with the national standard values. The results of the WSD's regular water quality monitoring work in the past years showed that the DJ water supplied to Hong Kong was of consistently good quality and the average values of various monitoring parameters were in full compliance with the water quality requirements under the Agreement. But certain water quality indicators of DJ water might occasionally deviate from the stipulated values for Type II waters in the GB3838-2002 under exceptional circumstances. The Guangdong (GD) and Hong Kong authorities will continue to liaise closely and adopt appropriate measures to enhance the water quality of DJ water.
- The WSD has been paying close attention to the floodwater discharge of the Sha Wan Interception Point. The supply route of DJ water on the Mainland side passes through the Shenzhen Reservoir before reaching Hong Kong. The Sha

Wan River lies to the north of the Shenzhen Reservoir. Before being polluted by domestic effluent, it was part of the river network that formed the catchment of the Shenzhen Reservoir. Since the completion of the wastewater interception works at the Sha Wan in the early years, the Sha Wan River no longer flows into the Shenzhen Reservoir normally. It is only when the water level of the Sha Wan River rises steeply to the alert threshold as a result of a heavy rainstorm during flood season that the Shenzhen authorities might need to divert some of the flow from the Sha Wan River to its original river channel for discharge into the Shenzhen Reservoir for the safety of the public. The water quality of the DJ water supplied to Hong Kong might then be affected.

- The WSD has raised its concerns about floodwater discharge from the Sha Wan River to the GD authorities, which take the issue seriously and have taken action accordingly, including introducing a notification mechanism for floodwater discharge from the Sha Wan Interception Point. The mechanism is intended to alert the WSD early about the floodwater discharge and enable it to make prompt and appropriate arrangements. This would ensure that the quality of all raw water, including DJ water, would become fully compliant with the WHO Guidelines in chemical, microbial and radiological aspects after treatment by the WSD's water treatment works.
- The GD authorities also advised in December 2015 that the Shenzhen authorities would undertake a comprehensive remediation project for the water environment of the Sha Wan River Basin shortly to protect the water quality of the Shenzhen Reservoir. The major works will include desilting the river channel to increase river flow and reduce the need of flood discharge; laying sewage pipes and expanding the sewage treatment plant to address the pollution caused by domestic effluent in the Sha Wan River. The whole project will take two to three years to complete. In the meantime, the WSD will continue to liaise closely with the GD authorities to follow up the works for improving the water quality of the Sha Wan River.

Development Bureau
Water Supplies Department
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