Panel on Development
357WF - Design and construction for the first stage of desalination plant at Tseung Kwan O – Mainlaying

Follow-up Issues of the Meeting held on 24 January 2017

At the meeting on 24 January 2017, the Panel on Development discussed the proposal to upgrade part of **357WF**, entitled "Design and construction of the first stage of desalination plant at Tseung Kwan O – mainlaying" (LC Paper No. CB(1)439/16-17(06)). Members requested information on the estimated payback period for developing the proposed desalination plant at Tseung Kwan O (TKO), and the latest figures on the quantity of water lost due to leakage of water mains. The following paragraphs set out our response.

Estimated payback period for developing the proposed desalination plant at TKO

2. With the increasing water demand arising from continuous population and economic growth and the unforeseen extreme weather brought about by climate changes, we need to develop a strategic alternative water resource by seawater desalination which is not susceptible to climate change, thereby safeguarding water security in Hong Kong.

3. The estimated unit cost of producing fresh water from the proposed desalination plant at TKO is about HK$12 to 13 per cubic metre at 2016 price level, which covers various costs of capital investment, energy consumption, water treatment and distribution, and customer service. Under the current water tariff which is highly subsidized by public funds, the revenue from chargeable supplies will not be able to fully recover the production cost of the desalination plant and thus in this regard, it is not appropriate to calculate the payback period for the desalination plant at TKO. Notwithstanding, the additional fresh water to be provided by the proposed desalination plant will help relieve the demand for Dongjiang (DJ) water; the saving of which is however difficult to ascertain at this stage as the future price of DJ water is subject to a number of varying factors including quantity of DJ water required, changes of exchange rate of RMB and related consumer price indices, operation costs, etc.

Quantity of water lost due to leakage of water mains

4. The Water Supplies Department (WSD) has been taking a multi-pronged approach to tackle the water main leakage problem, which includes the implementation of leakage detection, pressure management and Replacement and Rehabilitation (R&R) Programme for water mains. With the R&R Programme of about 3 000 km of water main substantially completed in 2015, the condition of the water distribution network has been largely improved. The leakage rate has been reduced from about 25% in 2001 to about 15% in 2016. It is worth noting that with service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure, thereby the water distribution network is prone to leakage and the water main leaks are considered more as operational constraints rather than losses.

5. Following the substantial completion of the R&R Programme, WSD will continue to take forward cost effective measures to reduce the water loss due to leakage. In this regard, WSD has been progressively establishing the Water Intelligent Network by installation of monitoring and sensing equipment for setting up District Metering Areas and Pressure Management Areas in the water supply networks in order to enable continuous monitoring on the health conditions of the water supply networks. Moreover, WSD also continues to implement pressure management measures on the water mains which are under relatively high water pressure so as to reduce the water leakages.

Development Bureau
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