

Water Supply and Utility Impact Assessment Executive Summary

INTRODUCTION

The purpose of this report is to present the findings of Water Supply and Utilities Impact Assessment that has been carried out on the water supply and utility facilities that are in place or planned due to additional demand from the proposed Kwu Tung North (KTN), Fanling North (FLN) and Ping Che/Ta Kwu Ling (PC/TKL) New Development Areas (NDAs) in the North East New Territories (NENT). These include fresh, flushing and irrigation water demand and utility services comprising power supply, gas supply, telephone services and other telecommunication installations, cable TV service, street lighting and traffic signals.

WATER SUPPLY IMPACT ASSESSMENT

The assessment indicates that the capacity of the existing fresh water supply system in the North District cannot meet the total water demand from the NDAs and future developments of the North District. Existing service reservoirs, pumping stations, trunk mains and water treatment facilities would need to be upgraded and a new separate flushing water supply is required to meet the future demand of water supply in the whole North District. Therefore, a new fresh water service reservoir and flushing water service reservoir in each NDA and associated waterworks are proposed to cope with the demand from the NDAs.

UTILITIES IMPACT ASSESSMENT

Public utilities companies and relevant departments were consulted on their requirements in providing services to the future development area. These services include electric power, gas, street lighting, telecommunication and wireless communication. For KTN and FLN NDAs, new 132kV primary substations are proposed in the Recommended Outline Development Plans (RODPs) to provide the power supply to the NENT NDAs. For PC/TKL NDA, the proposed Heung Yuen Wai substation in Liantang/Heung Yuen Wai Boundary Control Point will also provide the power supply to PC/TKL NDA. Gas supply for the NENT NDAs will be provided from the existing Fanling West and Fanling East Gas Offtake Station. The power, gas and telecommunication pipelines will generally be extended from the existing network along Castle Peak Road, Jockey Club Road, Ma Sik Road and Sha Tau Kok Road.

The utility impact assessment has also provided a preliminary appraisal on the feasibility of adopting the District Cooling System (DCS) within the NDAs as one of the green initiatives. Adopting DCS using cooling tower as heat rejection mode is more energy efficient than the conventional air-cooled system by as much as 20%. According to the preliminary assessment, the cooling loads in the KTN and PC/TKL NDAs are sufficient to sustain DCS. For FLN NDA, DCS is not recommended as the cooling load distribution is quite scattered and small to sustain the DCS operation. The preliminary financial analysis demonstrates that DCS for KTN and PC/TKL NDAs is not commercially viable, for the payback period is longer than the system servicing life (normally 25 years). In order to make it financially viable, some form of incentives shall be considered. A further study is recommended for further investigating the financial viability and implementation of DCS in NDAs in details. Given the environmental benefits, land for DCS has been reserved in the KTN and PC/TKL NDAs for the purpose.