

The District Cooling System for Tung Chung New Town Extension (East)

PURPOSE

This paper seeks members' advice and support for the proposed provision of a District Cooling System (DCS) at the Tung Chung New Town Extension (East) (TCNTE(E)).

BACKGROUND

2. TCNTE(E) is one of the major initiatives for land supply in medium-term. The 2018 Policy Address, stated that the feasibility of providing DCS in TCNTE(E) would be studied to align with the Government's commitment to low-carbon development. As commercial buildings, hotels, schools and sports hall etc. are planned in TCNTE(E), it is anticipated that the cooling load demand would be sufficient to support the development of DCS.

3. DCS is a large-scale centralized air-conditioning system. It produces chilled water at central chiller plants and distributes the chilled water to user buildings for air-conditioning purpose. DCS is an energy-efficient air-conditioning system when compared with traditional air-cooled air-conditioning systems and individual water-cooled air-conditioning systems using cooling towers. Apart from energy conservation, DCS will bring benefits for individual users such as reduction of heat island effects in TCNTE(E), avoidance of noise and vibration nuisances arising from the operation of heat rejection equipment and chillers of air-conditioning plants, and more flexible building designs for user buildings to incorporate green features and renewable energy systems such as photovoltaic panels systems, since such heat rejection equipment and chillers will be unnecessary in user buildings using district cooling services.

PROPOSED SITE FOR DCS PLANT

4. The proposed DCS plant is located at the north western part of Area 120. The proposed location plan is shown in **Annex**.

5. The proposed site as indicated in the Outline Zoning Plan (OZP) for Tung Chung New Town Extension S/I-TCE/2 was designated as Government, Institution or Community (G/IC) use. According to the aforementioned OZP, the proposed DCS plant falls within Public Utility Installation in Column 1 of G/IC.

PROPOSAL

6. The proposed DCS comprises chiller plant cum seawater pump house, seawater pipes, chilled water distribution pipes and connection facilities at user buildings. The proposed DCS will

supply chilled water serving the public and private non-domestic developments including commercial buildings, hotels, schools and sports hall, etc. The proposed DCS at TCNTE(E) is planned to serve a total of about 700 000 square meters of non-domestic air-conditioned gross floor areas with about 123 megawatt of refrigeration cooling capacity. The proposed conceptual plan is shown in the **Annex**.

PROJECT IMPLEMENTATION

7. The scope of the proposed DCS at the TCNTE(E) comprises of chiller plant cum seawater pump house, seawater pipes, chilled water distribution pipes and connection facilities at user buildings.
8. EMSD plans to consult the Panel on Development of the Legislative Council (LegCo) in the fourth quarter of 2020. If the funding proposal is approved in the first quarter of 2021, the proposed works will commence subsequently and will be completed in phases. The entire project is anticipated for completion by 2034.

ADVICE SOUGHT

9. Members are invited to comment on the proposed DCS for TCNTE(E) and support the project.

Electrical and Mechanical Services Department
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Annex Proposed Conceptual Plan of the DCS for TCNTE(E)

Annex Proposed Conceptual Plan of the DCS for TCNTE(E)

