

Harbour-front Enhancement Committee

District Cooling System at the Kai Tak Development - Underground Plant Rooms' Operational Facilities on the Open Space at Runway Boulevard

Purpose

This paper is to brief members on the proposed project of provision of District Cooling System (DCS) at the Kai Tak Development (KTD) and the underground plant rooms' operational facilities on the open space at the Runway Boulevard.

Background on District Cooling System at the Kai Tak Development

2. The district cooling system at the Kai Tak Development is a new policy initiative to promote energy efficiency and conservation. The project is to construct a large scale centralized air-conditioning system which supplies chilled water from central chiller plants to non-domestic buildings in KTD through an underground water piping network. The DCS will save energy up to 35% and 20% respectively as compared with the conventional air-cooled air-conditioning system and water-cooled air-conditioning system using cooling towers in individual buildings. It is the first project of its kind to be implemented by the Government in Hong Kong.

3. The project will be developed in 3 phases. The first phase of the project will commence in early 2010 and be ready for operation in 2013. The second and third phases will be completed for operation from 2017 and 2022 respectively.

Underground Southern DCS Plant Rooms at the Runway Boulevard

Location of Plant Rooms and Construction Programme

4. The system consists of a northern chiller plant, a southern underground chiller plant and an underground seawater pumphouse, chilled water distribution piping network, and seawater supply and return pipes. The location of chiller plants and seawater pumphouse are shown in **Appendix 1**. The southern chiller plant and the seawater pumphouse fall mainly under the area zoned "Open Space" (the runway boulevard) in the middle part of the existing runway on the approved Kai Tak Outline Zoning Plan No. S/K22/2. The plant rooms are essential for the supply of chilled water

to buildings at KTD for air-conditioning. Seawater will be abstracted to the northern and southern chiller plants for cooling purpose. To suit the 1st phase operation, the construction of the plants will commence in early 2010 for completion in 2012.

Above-ground Operational Facilities on Open Space

5. For safety and operational and maintenance needs for the underground plants, the following above-ground operational facilities are required to be built on the open space as shown in **Appendices 2 and 3**:

- (a) Ventilation outlets (4 nos.);
- (b) Delivery hatches (at-grade) for equipment (2 nos.);
- (c) Type A ground access to underground plants (4 nos.); and
- (d) Type B ground access (1 no.) integrated with a small-size service cabinet housing a water meter, a fire service inlet, a generator flue pipe and an oil tank vent pipe.

Arrangements for Blending in with Surrounding Environment

6. To minimize their visual effect on the surrounding areas without compromising the basic safety and operational requirements, the abovementioned facilities will be kept to the necessary minimum and be maintained as much low-level as possible. Further, the said facilities will be located at strip areas along both sides of the runway boulevard so as to not to obstruct its major central area.

7. For the facilities close to the domestic development area, the Type A ground access is about 1 meter in height and delivery hatches will be flushed with the ground. They will not obstruct the view on the runway boulevard. The ventilation shafts and the Type B ground access near the hotel belt development area will be arranged / be designed to minimize their visual impact to the environment. The area on the top of the ventilation shaft will serve as a planter and appropriate greening features will be provided.

Arrangements to suit Development Stages of Open Space

8. The runway boulevard and associated landscape on the open space above the underground plant rooms will be developed by other department(s) and their development would likely be scheduled after our completion of underground plants in end 2012. As such, our said facilities will be designed with flexibility to suit the development of the open space in the following two successive periods:

- (a) Pre-development stage (i.e. before the development of the runway boulevard and associated landscape)

At this pre-development stage, there would not be any development on the open space after completion of the underground plant rooms in 2012. Given

no occupation of people on the open space before its development at a later stage, the above-said operational facilities furnished at this stage will not cause impact to the general public in the surrounding areas.

(b) Development and post-development stage.

At this stage, the runway boulevard and associated landscape will be developed by relevant departments on the open space. By that time, the above-said facilities have been existent and under operation for a certain period. To enable the existing facilities to blend in with the future surrounding landscape, we will liaise closely with the relevant departments during their design stage and will suitably modify the facilities for better integration with their landscape features if necessary.

Liaison with Relevant Departments

9. The locations of openings of the said facilities which have been determined for construction in the design stage of the project will have bearing to the design of the landscape features on the open space at the later stage of its development by relevant departments. As such, we have liaised with relevant departments such as LCSD, ArchSD and CEDD and PlanD on the above operational facilities on the open space and the arrangements for blending in with the surrounding environment during the current initial design stage of the DCS project at KTD. We will continue to liaise with them on further details of our proposal for coordination with the development of the open area.

Views sought

10. Members are invited to note the proposal of implementing a DCS at the KTD and advise views, if any, on the proposed arrangement of underground plant rooms' operational facilities on the open space.

Electrical and Mechanical Services Department
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