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**EFFECTIVENESS OF OPERATIONAL ON ICE THERMAL
ENERGY STORAGE SYSTEM**

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ABSTRACT

Super High Rise building has emerged in Malaysia due to its rapid requirement of office space by commercial corporation. Typically, all high rise buildings require state of the art air-conditioning system to maintain a comfort and conducive working environment in a high temperature and humidity condition in Malaysia.

Most of the building owners have opted to subscribe chilled water provided by District Cooling developer. Rather than producing themselves. This has also lead to the development of large scale privately owned District Cooling System, Ice Storage and Cogeneration Plant in Malaysia.

District Cooling System is defined as production and supplying of chilled water for air-conditioning form central location to various buildings within the development using the underground chilled water preinsulated piping network. Large scale District Cooling with cogeneration has been built to cater growing needs of chilled water for air-conditioning.

Cogeneration is used to provide electricity for the DCS and simultaneously producing chilled water using steam boiler and absorption chiller. In addition, Ice Thermal Storage is a demand management technology whereby it has an ability to shift air-conditioning load from daytime peak hours to night time off-peak hours using a special off-peak electricity tariff offered by Power Company.¹

¹ Dr. Salim Sairan, Ir. Rosli Mohamed, Experiences On District Cooling System, Ice Thermal Storage And Cogeneration For High Rise Buildings In Malaysia, TSPL Sdn. Bhd.

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