변전소 구조물의 에너지파일 시스템 적용성 연구

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A Sutdy on the Apllicability of the Energy Pile System on Substation

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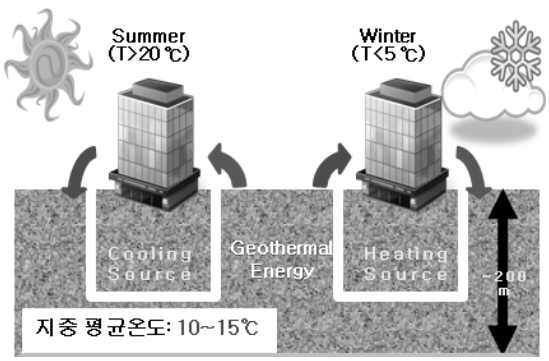
Cooling and Heating system using Geothermal energy in the country has shown rapid development in the research and business field during about 10 years. However, like other renewable energy sources, high initial construction cost is acting as an obstacle to apply widely. Therefore Energy pile system(Heat Exchanger inserted inside the structure pile) that can save about 25 % initial construction cost has been studied in European countries and recently being studied in our country.

Therefore, KPECO(Korea Electric Power Corporation) is also studying energy pile system to improve cooling & heating system in substation that install about 200 pile. KPECO is aimed to make energy pile design, construction and maintenance standards because substation has good applicability. In this study, we studied to make new grout material and design program to make optimized design & counstruction method of energy pile system. And planing to peform field test for energy pile system in a 154 kV substation to obtain long-term behavior and efficiency of the system.



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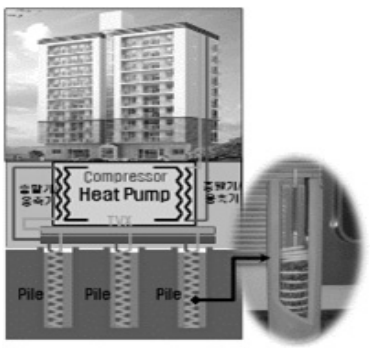

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Key words : Engergy Pile(에너지파일), Heating and Cooling system using Geothermal(지열냉난방), Substation(변전소)