



CENTRAL GEOTHERMAL PLANT

ENERGY PRODUCTION & RENEWABLE SOLUTIONS

Key Figures

Customer's Estimated Energy Usage Reduction from Geothermal Plant:

40%

U.S. Greenhouse Gas Emissions from Buildings Using Fossil Fuels in 2020:

13%

U.S. Electricity from Renewable Sources in 2020 :

21%

Mobilized Expertise

Modular Plant and Solution Provider

Streamlined modular delivery of a central geothermal plant.

Introduction

Shifting to Geothermal Energy

One consumer goods manufacturer sought to shift to geothermal energy to condition the campus of its corporate headquarters and significantly reduce its energy use.

Considered a renewable energy source, geothermal energy is heat continuously produced within the earth. It can be used for heating and cooling purposes.

Through the design-bid-build process, Systecon, an EQUANS company provided this customer with a modular utility solution.

Customer Challenges

Repurposing Existing Space for New Plant

The customer's use of a geothermal energy system is to provide heating and cooling for its campus' buildings.

The primary challenge to consider was the constraints of the existing space. The current building structure housed a steam boiler plant that would be repurposed for the customer's new modular central geothermal plant. Taking its existing boiler plant and converting it from steam to hot water, the customer shifts from carbon base natural gas boilers to electric heat recovery chillers.

Systecon's Response

A Two-Story Modular Geothermal Plant

Supporting the project engineer very early in the process, Systecon became the Basis of Design and coordinated the 3D design to facilitate reuse of the existing building structure and integrated factory PLC controls with BACnet interface to the campus Building Management System.

Incorporating structural steel, heat recovery, modular chillers, boilers, heat exchangers, pumps, controls, and electrical distribution, Systecon designed, manufactured, and streamlined delivery of a two-level modular central geothermal plant. This two-story plant uses high-efficient modular chillers/heaters for simultaneous cooling and heating.



Results

The two-story modular central geothermal plant fits in the existing building structure and uses high-efficient modular chillers/heaters for simultaneous cooling and heating.

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