ALBANY, NEW YORK  •  APRIL 18-19, 2018

GEOTHERMAL HEATING & COOLING CONFERENCE

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THE GEOSTAR 2018 TOP JOB COMPETITION

The objective of the GeoStar Top Job Competition is to highlight and recognize the incredible talent, creativity and imagination that exists in geothermal system designers and installers. Additionally, to communicate to those outside the industry the variety of ways that geothermal heat pump technology can be applied.

TOP JOB CONTESTANT #1: SIANO BUILDING

Company: Buffalo Geothermal
Presenter: Jens Ponikau

The Siano Building, located in Buffalo transformed a vacant lot into a 12,600 sq. ft., mixed-use building consisting of retail space and 11 apartments. Voted best urban fill-in 2017 by Buffalo Rising Magazine, the building focuses on neighborhood revitalization and sustainability. The entire building is exclusively conditioned by geothermal heating and cooling, with each apartment having its own heat pump for zone control. In addition, all the domestic hot water is generated via geothermal, allowing a smaller loop field in this cooling dominated building and reduced upfront costs. The entire ground loop is installed under the building, allowing for space saving installation and demonstrating a creative application of geothermal systems in dense urban settings.

TOP JOB CONTESTANT #2: THE GLASS HOUSE ZERO NET ENERGY PROJECT

Company: Verdae, LLC
Presenter: Lloyd Hamilton

The Glass House, located in the Hudson Valley is an example of what the architect calls the IT HOUSE. To overcome some of the energy and comfort challenges of a “glass” house, Verdae first worked to find better window and door options, including insulation and ways to reduce thermal bridging to significantly improve the building envelope. Once envelope improvements were approved, a properly sized geothermal HVAC system was designed and installed which made achieving the net zero energy goal possible on this house, without changing the architectural design. The house has a water-to-water heat pump supplying radiant heating, and variable speed water-to-air to maximize comfort and efficiency for AC. Renewable electricity is supplied by a 14 kW solar system with 48 SolarWorld panels mounted using two poles, with double axis tracking.
TOP JOB CONTESTANT #3: RED CLOVER COMMONS

Company: Blake Equipment
Presenter: Jeffrey J. Harrison

Housing Vermont, a nonprofit development company, creates permanently affordable rental housing throughout the state of Vermont. Red Clover Commons, was designed to include 55 housing units, in a three-story building with parking in the basement. Red Clover Commons is a ‘green’ facility built for a sustainable future including a near net zero HVAC system. The team recommended a geoxchange solution incorporating an advanced borefield of thermally enhanced HDPE heat exchangers, coupled with a near frictionless magnetic bearing chiller, along with new low kWh water circulation pumping technology. These technologies, by design, synergistically result in a “Near Net Zero Energy” HVAC system. The projected heating and cooling cost is only $20 per unit per month, which is 75% less than the average costs of a standard apartment building.

TOP JOB CONTESTANT #4: GSHP CONVERSION OF SCHWAMB MILL

Company: Achieve Renewable Energy LLC
Presenter: Lawrence Lessard

The Owners were renovating the historic Schwamb Mill in Arlington, Massachusetts, with a goal to create a bright and inviting Class A office space. The Mill was circa 1880 heavy timber and brick structure. Maintaining a short schedule to meet WorkBar’s requirements was a key to project success. The building was previously heated via an oil-fired steam system and upgrade options were natural gas furnaces with central air conditioning or ground source heat pumps. The Owners favored a natural gas system based on cost and anticipated installation time, however due to the distance of the gas main, the cost of installing the gas line was approximately $30K. More importantly, the Utility would not promise a schedule for the gas line installation. The 12,000 sq. ft. historic building had total heating and cooling cost of $6,415 for the previous year. Of this, about $1,500 was cooling of a server room. The Owner has told Achieve that this is the lowest maintenance, quietest and lowest operating cost heating system at any of their numerous facilities.

TOP JOB CONTESTANT #5: NATIONAL GRID GAS REV – GEOTHERMAL FOR ALL

Company: National Grid
Presenters: Chong Lin, Dave Reardon

National Grid has been maintaining and investing in natural gas infrastructure projects to provide safe and reliable gas service to Long Island Customers for decades. The project is a test-and-learn demonstration to install geothermal (ground-source) heat pump systems on Long Island to provide new customers outside the Company’s current gas distribution system with clean, low-cost heating and cooling solutions. The goal of the project is to gather detailed data on cost, effectiveness and customer satisfaction and ultimately determine with the New York Public Service Commission and NYSERDA, whether the project can be replicated on a larger scale. This project is a 30-ton community loop field system that provides geothermal services to 10 residents in Glenwood Village, a 55-and-older, fixed-income, manufactured homes community. National Grid believes we can help facilitate the development and adoption of geothermal heating and cooling systems. We wish to work with the industry to find opportunities where National Grid and the industry can grow together.