



Nova Southeastern University's Central Energy Plant Projected to Save Over \$17.3 Million

Earlier this year, the International District Energy Association (IDEA) invited Hill York and Nova Southeastern University (NSU) to present on the university's Central Energy Plant. The plant is a terrific success story because of the foresight in planning for efficiency and the savings which are projected to be 17.3 million dollars over the life of the system.

In 2008, NSU teamed up with Hill York and C. Davis Electric to create a Central Energy Plant that could sustain the university and provide for future expansion cooling while reducing run cost. The plant was built to provide chilled water to cool the campus. To reduce peak electric demand and operating costs, 19,800 ton-hours of ice storage capacity was installed. When completed, the plant will have a total of 72,200 ton-hours of ice storage capacity. The major HVAC equipment is monitored by utiliVisor, one of the tools used to fine-tune the plant to run at peak efficiency, further reducing energy usage and running costs. The chillers take advantage of off-peak utility pricing to avoid the high cost of electricity during peak hours. At full build out, the NSU chiller plant is projected to earn three million dollars in FPL rebates.



As the installation and mechanical contractor on record for the facility, Hill York was not only instrumental in the design and construction of NSU's Central Energy Plant but also maintains its daily operations. This Central Energy Plant is recognized as one of the largest thermal energy storage systems in the United States.

During the International District Energy Association's (IDEA) 104th Annual Conference and Trade Show, Hill York and NSU provided attendees with an exclusive tour of the Central Energy Plant. Held on June 5, 2013, this conference focused on highly efficient and clean district energy technologies deployed on an urban scale to deliver robust and reliable energy services.

Hill York's President & CEO, Chip Lafferty, along with Rob Pulsifer, Hill York's Director of Energy Services, Dr. George Hanbury, President and CEO of NSU, Pete J. Witschen, NSU's Vice President for Facilities Management, and Al Smith, NSU's Director of Physical Plant were honored to host worldwide industry leaders at NSU's Central Energy Plant to promote its energy efficient features.

NSU is the largest independent institution of higher education in the Southeastern U.S. Located on a 300-acre campus in Fort Lauderdale, this university is home to more than 26,000 students.



Some key factors contributing to the innovative design and operation of the plant are as follows:

Ice Storage Facilities

- 19,800 ton hours of ice storage, 79,200 ton hours at full build-out
- 30 sets of coils per ice tank, five sets of coils per stack, six stacks total

HVAC Equipment

- Two York Compound YK Chillers (2,300 tons each)
- Two 2-cell CCS Cooling Towers
- Two Tranter Cross-flow Plate Frame Heat Exchangers
- 30 BAC Ice Coils
- Six Bell & Gossett Pumps: two 200 hp, two 150 hp, two 100 hp

Pipe –O.D. Galvanized Steel Pipe

- 65,000 feet of pipe per stack
- 390,000 feet or 73.86 miles of pipe total per ice tank
- Capable of cooling 5,000,000 square feet of NSU's campus
- 32.5 degree chilled water leaving the plant

Electric Rooms

- First Floor: 5,000 kVA oil filled transformers drop the voltage from 13.2 kV to 4.16 kV, C&D Technology battery system, 130 volts DC power supply, redundant charging system for GIS Switchgear Protection relays
- Second Floor: State of the art 13.2 kV Siemens GIS Switchgear with touch screen operator, NFPA 70E arc flash compliant, gas-encapsulated bus bar technology, power monitoring system