



Project Name and Location:

Nova Southeastern University
Central Energy Plant (Zone 4)
Davie, FL

Client/Owner Contact:

Nova Southeastern University
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General Contractor:

ANF Group, Inc.
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Completion Date:

September 2009

Final Contract Amount:

\$12,500,000

Project Size:

4,600 tons

Project Scope:

The new Central Energy Plant was a design assist effort with B&A Engineers. The project required an intense fast track (Nova Track) construction schedule to meet the completion date, prior to the start of the school year. All of the piping systems were preplanned and prefabricated to allow chilled water circulation within 90 days of on-site installation. Intense planning and management strategies were employed to accomplish this goal on time and under budget. Initially, the new Zone 4 Plant will be able to provide 4,600 tons of cooling capacity, with room for another 6,900 tons of cooling capacity as future campus expansion is constructed. One of the main concerns with this project is how to run the plant continuously at peak efficiency to reduce operating costs.

utiliVisor, a state-of-the-art chiller plant oversight system was installed to facilitate real time, optimal efficiency. The underground piping connects the new plant to the new lower school, auditorium and existing campus buildings. The concept of thermal ice storage is based on the premise that a majority of the mechanical equipment (chillers, cooling towers, pumps, etc.) will run during off peak times to generate ice. When periods of peak demand occur, all mechanical equipment will shut off (with the exception of one chilled water pump) and the ice will be used to cool the chilled water that is supplied to the campus, thus avoiding a large demand penalty.





Quick Summary:

Objectives:

Build a new plant that can sustain the current campus, provide ability for future expansion cooling, and construct a thermal storage facility to reduce run cost

Project Location:

Davie, Florida

Major Decision Drivers:

Cost reductions, energy efficiency, environmental impact and life cycle cost

Building Type/Size:

Central Energy Plant to serve the entire NSU Campus and future campus expansions

HVAC Equipment:

Two York Compound YK chillers, two 2 cell BAC cooling towers, two Tranter cross-flow plate frame heat exchangers, 144 8' X 3' X 6' BAC ice coils, and six Bell and Gossett pumps; two 200hp, two 150hp, two 100hp

Total Cooling:

Phase one 4,600 tons; final expansion 11,500 tons

Design Considerations:

Self sustainability, green designs and life cycle cost

Unique Features:

utiliVisor Monitoring System installed by hygreen, Hill York's Performance Group to show real-time efficiency for the plant

FPL Rebates:

\$581,280

Installation Date:

Phase one, main plant, all piping, and 40% of HVAC equipment, 2009; 2010 and beyond for future needs



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