Gulf Power

Pensacola, FL -- The Gulf Power Distribution Operations Center (D.O.C.) has been awarded **LEED Certification** by the U.S. Green Building Council. This building, the first LEED certified building by Gulf Power, and third LEED certified building in the Escambia County, was completed in May 2009.

The program called for a free standing storm-proof facility for relocating the existing DOC from the corporate office on Bayfront Parkway. After the Hurricane Ivan devastated the area in 2004, there was a call to move the facility inland as technology upgrades were being made. The structure was designed to meet a 200 mph design wind speed per FEMA recommendations for 'near absolute protection' and required an emergency generator power back-up system. The facility was planned as part of a total campus, with long term needs in mind, so that different components could be added as necessary.

In addition to meeting all of the stringent hurricane requirements, the facility was also designed as a green building. The project has earned the USGBC's Leadership in Energy and Environmental Design (LEED) certification, the recognized standard for measuring building sustainability. The point based system is one way to quantify the impacts of building green to determine the environmental benefits.

The project earned credits in each of the 6 categories, including 3 exemplary performance credits achieved by more than doubling the requirements of the particular credit.

Dan Nye, P.E., LEED AP, the mechanical engineer for the project, noted that energy consumption was minimized by following the recommendations of ASHRAE's Advanced Energy Design Guide for Small Office Buildings.

The HVAC system consists of high efficiency 2-stage water source heat pumps with a part load efficiency of 27 EER. The heat pumps are coupled to a closed loop geothermal loop field. The heat pump with the most cooling hours was provided with de-superheat to minimize the power use of the domestic water heater. Outside air is measured with a thermal dispersion measuring device and CO2 sensors are used to modulate airflow between scheduled minimum and maximum rates. A direct digital control system is used to monitor power consumption at the electrical panels and trend power usage of the HVAC system, lighting system and plug loads.

A 32% reduction in water usage was achieved by utilizing several high efficiency low flow fixtures. High efficiency water closets combined with sensor activated flush valves were used to reduce water consumption to 1.28 gallons per flush. A low flow pressure compensating aerator outlet was utilized to reduce water flow at the sinks and lavatories to a maximum of 1.0 gallon per minute. Low flow heads reduced water usage at the showers to 1.5 gallons per minute.

The Gulf Power DOC project was commissioned by Building Energy Sciences, an Independent Commissioning Provider, in accordance to the prerequisite Fundamental Commissioning requirement of the LEED NC 2.2 Rating System.

The project proved successful not only by reducing its potentially harmful effects on the environment, but it also bid at more than $1,000,000 under budget.

The Design Team consisted of Bay Design Associates Architects (Architecture and In-House LEED Certification), and consultants included Gulf Breeze Consulting (Mechanical/Plumbing Engineers), Adams Consulting Engineering (Electrical Engineer), Building Energy Sciences (Commissioning Agent), jehle-halstead (Civil Engineers), and Berube-Leonard (Structural Engineers).

The Morette Company served as General Contractor.

High Performance Characteristics of the project include:

- Installation of low flow fixtures
- 32% reduction in building water use
- Occupancy sensors throughout the building for automatic lighting control
- Highly efficient multi-zone HVAC system
- Highly reflective roofing materials
- Estimated 20% reduction in energy consumption
- Materials with high recycled content (exemplary performance credit issued for 35% recycled content)
- Low VOC emitting materials and finishes
- Local materials used (exemplary performance credit issued for 47% regional materials)
- Located near local businesses and residential areas creating community connectivity