



OPTIMUM INSTALLATIONS

# AVENTINE



## BUILDING STATEMENT/CHALLENGE

Glenborough LLC, owner of the Aventine complex, a 250,000 sq. ft. multi-use building located in La Jolla, CA, was looking at various methods to lower energy consumption and reduce their carbon footprint. As one of the green technologies being implemented, Optimum Energy's OptimumHVAC was installed to both lower HVAC energy consumption and improve the environmental footprint of the complex.

"At our Aventine complex, we're looking at attaining LEED certification. Installing the HVAC software system from Optimum Energy allows us to maximize our energy

savings while also better positioning this asset with LEED," stated Carlos Santamaria, Director of Engineering for Glenborough.

## RESOLUTION

The original project called for a chiller replacement but once discussions started, Optimum Energy was brought into the loop to offer a method that improved the project payback with minimal additional costs. The installation of Optimum Energy's software, OptimumHVAC to optimize the central plant was projected to save thousands of dollars annually. This patented software, combined with the installation of VFD's and new Turbocor compressors allowed Aventine to move from 1.3 kW/ton down to 0.65 kW/ton, a significant improvement in overall central plant efficiency. "We're projecting total payback in under three years, which is very good considering how energy prices continue to rise," stated Santamaria. If the new chiller plant upgrade is factored out of the total dollars spent, the simple payback is less than 15 months.

## OPTIMUMHVAC FROM OPTIMUM ENERGY



The OptimumHVAC kW/ton assessment chart helps determine the operational efficiency of existing chiller plants.

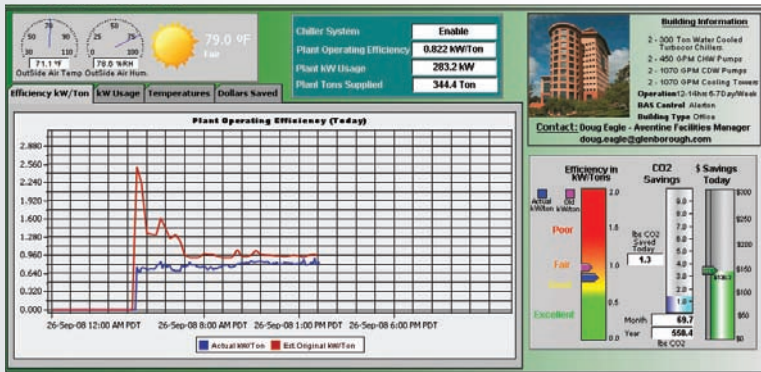
Prior to installation, the Aventine building was operating at 1.3 kW/ton. Post installation, the building is operating at 0.65 kW/ton, a savings of 0.53 kW/ton.

## EARTH DAY

Earth Day 2008 marked the unveiling of several environmental programs initiated by Glenborough. The culmination of these technologies lowered greenhouse gases and CO<sub>2</sub> emissions, cut energy costs, earned LEED

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— CARLOS SANTAMARIA, DIRECTOR OF ENGINEERING FOR GLENBOROUGH



OptimumHVAC/Performance Assurance Monitoring shows real time energy efficiency usage levels, daily and monthly dollars saved, and CO<sub>2</sub> reduction levels and is accessible to both technical staff and Optimum Energy engineers.

points, and led to better corporate citizenship. The reduction in CO<sub>2</sub> for the first year is projected at over 1,000,000 lbs. “Lowering Aventine’s environmental footprint has already paid huge dividends as they have earned the EPA Energy Star Rating and are registered with the US Green Building Council to attain LEED certification,” Optimum Energy’s President and CEO, Nathan Rothman, said. “The Glenborough Company is proud of their accomplishments, as we are proud of being part of their solution. This is evident by the first rate event held for their tenants as it reinforces their commitment to Green buildings, sustainability and energy efficiency.”

## COST/BENEFIT INFORMATION

The cost/benefit information is a quick snapshot of the building savings realized year to date.

- A utility rebate of \$105,000.
- Annual cost savings totaling over \$100,000.
- Annual electrical usage savings of over 750,000 kWh.

### Optimum Energy Motto:

Do Good. Do Well. And Prove It.

- Peak demand reduction of 67 kW.
- Annual CO<sub>2</sub> footprint reduction totaling 1.16 million lbs.
- Annual reduction of dangerous pollutants SO<sub>2</sub> and NO<sub>x</sub>.
- The payback period for the entire project is under 3 years.

## ABOUT OPTIMUM ENERGY

Optimum Energy’s reliable, Ultra High Performance HVAC optimization software applications are guaranteed to reduce energy consumption and operating costs with no impact on occupant comfort. OptimumHVAC is based on patented Hartman Technologies and is designed to significantly improve operating efficiencies in centrifugal chilled water plants and variable air volume air handler systems.

OptimumHVAC is delivered in a multi-protocol appliance that is easily connected to, and compatible with, all Building Automation Systems, and can be installed by any licensed mechanical or controls contractor. OptimumHVAC tracks building performance remotely and measures and verifies equipment operations and savings on both a real-time and historical basis via our OptimumHVAC Performance Assurance Services.



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