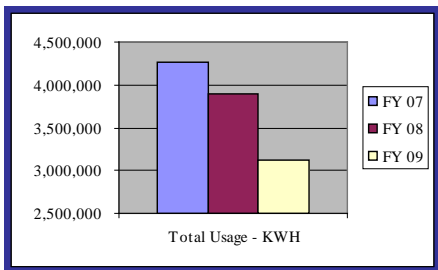




## ASSIGNMENT:

The combination of **savings in man hours & the reduction in energy usage**, presented the property owner with an approximate **savings of 38% over prior energy and engineering expenses** associated with environmental controls.



## OFFICE – CENTRAL BUSINESS DISTRICT

The owner of a 100,000+ square foot CBD Class “A” office building contracted with **Vanguard Engineering Services** (“Vanguard”) to perform an energy audit and submit recommendations for improved energy efficiency, which would not compromise the required “first class” services provided to the building’s tenants. In addition to the 100,000+ square feet of office space, the property contains a major ground floor component of high traffic retail serviced by separate HVAC systems.

## CHALLENGES

Certain components of the Building Automation System (“BAS”) and mechanical equipment were reaching their useful life expectancy. Operating expenses associated with the energy and operations of the Building HVAC system began to soar.

## SOLUTIONS

Vanguard immediately created a “re-engineered” operations program for the property, using experienced and uniquely qualified engineering personnel charged to improve the current environmental conditions. Concurrently with introducing the new operations program, Vanguard began to analyze detailed strategies for a upgrading and maintaining the property HVAC systems. After creating the re-engineered operations program, Vanguard introduced several minor new components to the existing mechanical, electrical and plumbing systems (“MEP”) in place; re-insulated areas of leakage (discovered during infrared testing); and installed electronic sub-meters on certain above standard tenant equipment in effort to provide an immediate impact on operations while a complete long term solution was commissioned. Vanguard supervised the design of an institutional grade BAS solution and selected a state-of-the-art open source system that integrated equipment from select manufacturers, creating a single monitoring and control platform. This system included retrofitting each VAV box with new controller cards tied to the open source system, which allowed the monitoring of: variable frequency drives, various air and water temperatures and volumes, CO2 levels, electric meters, and sub-meters. The enhanced HVAC platform and programs allowed for the property to continue providing a “first class” tenant experience in a better and more cost effective manner.

(Continued)

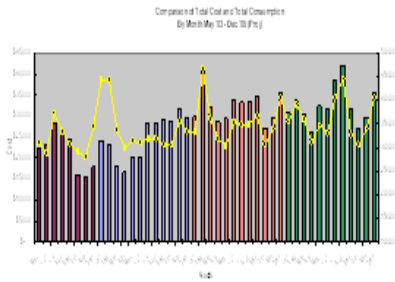
## QUALITY CONTROL WHERE EVER YOU ARE

Additionally, Vanguard designed and installed a rooftop, self-contained weather station on the building, which allows supervisors and site engineering staff to accurately monitor weather conditions, dramatically enhancing the building's control of HVAC operations during weather incidents. The entire mechanical/electrical operations of the property can now be remotely measured and controlled in real time.

## CONCLUSION

The installation of the new BAS also allowed for a significant reduction in engineering man hours and labor costs. The combination of savings in man hours, and the reduction in energy usage, presented the property owner with an approximate savings of 38% on their prior energy and engineering expenses associated with environmental controls at the property.

Equally important, **tenant satisfaction was significantly improved** by providing consistent office temperatures and creating the ability to respond to tenant service calls within minutes rather than hours or days. Equally impressive is the ability to observe a potential tenant service need through the installed monitoring platform, before the service call occurs, eliminating inefficient energy consumption, while maintaining tenant satisfaction and comfort levels. Tenant calls have been significantly reduced, which is a direct result of the new BAS and HVAC equipment implemented by the re-engineered operations program.



**Tenant satisfaction significantly improved** by providing consistent office temperatures, and being able to respond to tenant service calls within minutes rather than hours or days.

For the preferred expertise to perform your own energy audit, contact:

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