Southern Association of College and University Business Officers
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University of West Georgia & Siemens
*"An Energy Partnership***"**

The University of West Georgia (UWG), located in Carrollton, part of the 34-unit University System of Georgia. The University of West Georgia occupies a campus of 396 acres and was established in 1906. Current metrics of campus are 1.7 million square feet in 55 buildings. The majority of the buildings are between 20 and 40 years old with the oldest buildings dating to 1907. The campus is tree-lined, well maintained and in a residential setting on the west side of Carrollton, a city of 25,000 residents. Fall 2002 enrollment is 9,650 students and projected to reach 12,000 students within 10 years. The reality of an aging campus, inefficient energy systems and decreasing state budgets combined led us to consider new ways of addressing critical utility and maintenance issues in our facilities.

Based on conversations between the University of West Georgia and Siemens about energy control systems, we asked Siemens to participate as a member of our energy committee to tackle the issue of how to improve the learning environment, upgrade maintenance systems, save dollars on energy and generate capital funding for mechanical systems. The conversations led to a contract between Siemens and the University of West Georgia.

The University of West Georgia and Siemens have developed a true partnership in terms of managing our facilities. Our agreement allowed us to secure competent expertise to manage our mechanical HVAC systems. The contract with Siemens provided the personnel and technical assistance which brought with it a knowledge base that has helped improve the staff skills of the University of West Georgia and provided areas of expertise and knowledge the University would not have had available; for example, the State of Georgia is looking into performance contract issues. The University, has been able with Siemens help, to start investigating the possibility of future performance contract methods, which will ultimately save dollars. It has also put us 'in the loop' with State energy managers across the country.

The end result of this contract between Siemens and the University of West Georgia is the following:

- *Reduced energy costs*
- *Reduction in maintenance calls*
- *Significant reduction in return calls*
- *Less break downs*
- *Technical assistance and training for staff*
- *The ability to free staff up to do other things*
- *Less complaints from students, faculty, and staff about the heating and cooling of buildings*
- *Recognition on the campus that the problems are being solved*
- *A management contract with an agreed upon direct reduction in energy costs of <u>$100,000</u> in the first year. A one-for-one return.*
- *A conversation on how to improve our efficiency led to an energy audit, which uncovered a billing error with the power company that led to a return in excess of*

$150,000, which was over and above the one-for-one return on the management contract.

In the future:

- *We expect a 3 to 1 return on our management contract investment.*
- *We are looking at future applications with Siemens that will make the University of West Georgia a model, pilot campus for this partnership with significant improvements and a reduction of energy costs in the 30-40% range. This is a combination of rate reduction, utility usage and maintenance redirection.*

The bottom line is we are taking a campus with outdated mechanical systems and bringing it into the 21st century. The expectation in energy improvements will ultimately lead to a 25-40% reduction in energy costs.

These conversations are intended to lead us to a long-term partnership arrangement between Siemens and the University of West Georgia. Both organizations look forward to the future.

Statement of Problem

The University of West Georgia is similar to most institutions in Higher Education in that funding for deferred maintenance/replacement has been inconsistent. In addition we have:

- Aging campus with old out of date equipment/inefficient systems
- Decreasing funds for Operation and Maintenance and increased competition for "existing funds"
- Growing energy costs
- Demand for increased services and improvement in existing environmental conditions
- Increased awareness of issues such as indoor air quality
- Technical competence of existing staff to meet technological change and requirements
- Skilled leadership to address long term energy issues and efficiencies
- Unfunded mandate to improve planned and preventative maintenance

Methodology

A series of forty-two meetings took place between July of 2001 and November of 2002 that culminated in the University of West Georgia and Siemens Inc. developing a campus wide energy policy. The energy policy known as SERI (Service and Energy Resource Initiative) will help identify and evaluate potential energy conservation projects, identify potential funding sources, match available funding with potential

projects, and prioritize project implementation. Both supply and demand side projects and internal and external funding sources will be considered in this process. The key segments of these meetings were:

Implementation

1) University of West Georgia entered into an agreement with Siemens in November 2001 to provide an HVAC supervisor for the University of West Georgia that is capable of providing current technical insight, has an ability to evaluate strengths and weaknesses of our current HVAC staff, that can improve our capabilities with regard to our current energy management system, to help promote campus wide energy conservation practices, and to assure "preventative maintenance" as a standard procedure with regard to major mechanical systems.

2) A meeting was held with other Chief Business Officer's and Directors of Plant Operation in March of 2002 to discuss the necessity of finding solutions to each institution's deferred maintenance dilemma so that all parties could achieve goals set by the Georgia Higher Education Strategic Requirements. Qualifying for the School Load Management Rate (a rate based on 1985 equipment standards) provided by Georgia Power was discussed, as well as, options available for using Auxiliary reserve funds to capitalize energy related initiatives for academic buildings.

3) In June of 2002, the Vice President for Business and Finance for the University of West Georgia received written permission to use Auxiliary reserves for capitalizing energy projects in academic buildings. This agreement is contingent on the energy projects guaranteed payback from efficiencies within 4.7 years.

4) In July 2002, a Campus Wide Energy Policy that includes representatives of the campus community, as well as, representatives from the private sector was created. The main goal of this policy is to reduce energy consumption by 10% compared to the previous five year period. The following outline will serve to show the University of West Georgia Facilities' commitment to pursue continuous energy conservation on campus for the short and long term. We believe it is in the best interest of the University to pursue these goals. Ultimately, monies saved by maximizing our efforts can go back into other priorities on campus. This common sense approach guarantees good stewardship for our campus and environment.

The University of West Georgia is strongly committed to conserving electricity, gas, water, and sewage, and has developed an energy policy, which outlines methods and procedures to reduce energy consumption. The policy, developed by the Facilities Management Department, pertains to campus buildings, new construction, lighting, heating, air conditioning, ventilation, water usage, and education/research.

5) The University's Energy Committee met in November 2002 to discuss and create a spending plan for the Auxiliary reserve and the Facilities Operating and Maintenance monies. It was agreed to hire a "third party" to evaluate three distinct energy related issues on campus. EMC Engineers, Inc. was hired to provide a) a study to explore cost associated with the University qualifying for the School Load Management Rate, b) to provide an Energy Audit for five major buildings on campus that have extremely old and inefficient systems, and c) a campus wide energy walk-thru was initiated to identify energy related items that could be easily addressed by University staff.

6) In November of 2002, Siemens provided a review of our HVAC staff qualifications and solicited employee input to prioritize many of the mechanical upgrades on campus. The review proved to be extremely helpful in deciding which projects can be addressed with the existing work force, projects for contracting, and the possibility of combining University and Siemens staff to reduce the cost of contract work.

Benefits

The partnership between the University of West Georgia and Siemens has been a symbiotic relationship that truly benefits both parties involved and ultimately enhances all of our University constituents. The benefits to our University are as follows:

A) A savings of $265,000 in utility costs in 2002, over the prior year. A 230% return of our contract investment.

B) In addition the "energy audits" performed by EMC Engineers, Inc. have provided in excess of $150,000 in utility rate payback based on rate structures that the University is entitled to.

C) Client satisfaction has improved by 10% with regards to HVAC issues. This was noted in a campus wide survey of all departments.

D) Our clients on campus have noticed and will continue to notice improved services and environmental conditions as new, efficient systems are replaced campus wide. An investment of $1.8 million in energy systems upgrades will take place within the following year with half this investment from Auxiliary reserves.

E) Our HVAC staff has a renewed sense of pride because their ideas and priorities are the backbone for our replacement plans.

F) An RFP to provide proposals addressing major energy system upgrades on campus. University of West Georgia will be guaranteed "payback on investment" by participating Energy Service Companies due to energy efficient systems installation. An example of this is a 90% efficient boiler that will payback the investment in less than one and one-half years. The above mentioned benefits reflect what is and what will continue to be a "win, win" situation for all parties involved at the University of West Georgia.

Retrospect

While the future appears to be bright for this partnership, there will always be obstacles present; foremost of these will always be the competition for funds at our University. If we can continue to educate our constituents to the value of financing these projects long term, we very well stand the chance of ensuring that our facilities will operate in a safe and efficient manner in the distant future. The bottom line is a continuing, and creative approach to controlling energy costs. We believe that in an environment of reduced funding and potentially continuous increases in utility costs that we must take a proactive approach and use technology to its maximum efficiency to keep costs under control. Our partnership with Siemans and our vigilance should help ensure our success.