

Siemens Strengthens Texas A&M's Tradition of Energy Management

Of the many trends impacting U.S. colleges and universities in the next 10 years, two are converging at a rapid pace. The steady decline in the number of high-school age students, from 21.5 million in 2009 to less than 20 million by 2020, is dove-tailing with the rapidly increasing value 18 and 19 year-olds place on global responsibility. To attract smart, young students, institutions are finding they need to be seen as leaders in energy conservation and other areas of sustainability. Texas A&M University is one institution that has taken this bull by the horns.

As one of the nation's oldest and largest universities, Texas A&M is recognized as a leader in all facets of higher education, from academics to athletics to scientific research. The university has also been a leader in campus energy management, dating back to 1893 when it first began generating a significant portion of its own electricity. Texas A&M continues to look forward, with a new \$15 million performance contract and the help of Siemens Industry, to upgrade the efficiency of over 20 campus buildings.

Decreasing Costs While Increasing Enrollment

Texas A&M's proactive approach to managing energy consumption on campus targets two important goals. It wants to further control energy costs and provide a greener, more energy efficient campus for a more environmentally-conscious student body. This effort, spearheaded by the university's Department of Utilities and Energy Management (UEM) team — led by Jim Riley, Director of Utilities and Energy Management, and Les Williams, Associate Director of Utilities and Energy Management — has been a proven success. Since 2002, Texas A&M has been able to reduce energy consumption by 25% despite the fact the campus' total square footage grew by 18%.

Staying Ahead of the Curve

Today, the campus is embarking on an ambitious upgrade of 24 campus facilities to further improve energy management.

To do this, it is leveraging a \$15 million performance contract made possible through ARRA stimulus funds secured by the Texas State Energy Conservation Office (SECO). The contract allows Texas A&M to fund facility improvements through a low-interest loan paid for by future energy savings.

To implement the performance contract, Texas A&M partnered with the Building Technologies Division of Siemens Industry, Inc. a global leader in building automation and energy efficiency solutions. Siemens was selected in part because of their past successes with Texas A&M energy management initiatives. Additionally, the university felt confident in the ability of Siemens to complete all project work by the end of 2011, a key condition of the funding, according to Riley.

Creating a Better More Efficient Campus

In defining key elements of the building upgrades, Siemens and Texas A&M identified solutions that both reduce energy consumption and create buildings that better meet the needs of its students, according to Williams. The final list of projects calls for improvements to 24 campus buildings. These improvements include:

BAS Building Optimization — Optimization of the campus' building automation system (BAS) will improve energy efficiency and enable better HVAC control in buildings representing over 1.6 million square feet.

Occupancy Sensors — Occupancy sensors will be installed in offices, classrooms and common areas to reduce energy consumption and eliminate the wasteful practice of conditioning and lighting spaces when not occupied.

Lighting Retrofits — Replacing older inefficient lamps will reduce energy consumption dramatically. Texas A&M's 700,000 square foot library will benefit greatly from this upgrade as will campus parking garages, which must remain lit 24/7/365.



Top: Rudder Tower is one of 24 Texas A&M buildings undergoing energy efficiency upgrades.

Bottom, from the left: Jeff Murray, Siemens; Jim Riley, Director Utilities & Energy Management, Texas A&M; Jacob Richardson, Siemens; Les Williams, Associate Director Utilities & Energy Management, Texas A&M

The Impact of Performance Contracting

Once the project is completed in 2011, these building improvements are estimated to generate \$1.1 million in annual operations and utility savings. The university and Siemens are working closely with an independent third party assessor, selected by SECO, to ensure performance and savings goals are met. The end result is a more efficient, sustainable campus benefitting the students, budget and the environment.

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Why Do They Do It?

By Matt Adams, P.E.

Why do they do it? Why do the thousands of professional and trades people work in facilities? There are almost too many skills required to keep up with. There are architects, engineers, planners, accountants, members of every trade, housekeepers, movers, landscapers, human resource managers, planners, storeroom operators, motor pool managers, project managers, and another ten or more skills I can't even remember. Don't all these people realize that there will NEVER be enough money for their department and nobody is ever going to get rich quick? Not only that, but most of the time, their work is not recognized by the very institution that they serve. So, then, why do they do it?

A JOB WELL DONE

Some of our wise grandparents used to say that there are two types of people in the world: there are those that work, contribute, and produce—and then are those that live off of the production of others. The people that choose to work in our industry are the former. They are the ones that give to the world instead of take from it.

For those who work in facilities departments, there exists an intrinsic desire to do hard work and serve others. This is a dramatic distinction from others that are satisfied only from work that results in large amounts of money and what it can purchase to demonstrate success. Clearly, someone who can find professional satisfaction from the work itself—and not the rewards—is more humanistic and emotionally secure than those needing material things and recognition. If you were to ask a painter why they like their

job, the likely answer will be akin to: “I like to improve the campus through my work and see the work when it's complete.” You won't find too many on Wall Street that share this kind of professional sentiment.

If humility is a virtue, then our peers are some of the most virtuous people around. Unfortunately, there isn't much recognition given for the hard work and silent determination that takes place within our departments. Some would say that it's a thankless job. However, once again, I would ask: Isn't a person who can do the good work that must be done, without all the accolades, a more virtuous person? Isn't a person more fulfilled in life if he or she can find satisfaction in the act of doing the good work?

Perhaps this kind of quiet determination is slipping away from our value system, but I hope not. At least it's still alive and well in the facilities profession. Our people still do the work well because that is enough of an accomplishment. The individuals and their peers know good work when they do it and see it, and that is enough recognition for them. Unfortunately, the majority of the other members of the institution will never fully understand or appreciate the nature or difficulty of the work. But this is old news, and the work always goes on.

FINDING EVERY (AND ALL) WAYS

Now, given that there are so many skills required and their associated tasks, how can anyone do this under the pressure of a continually declining budget? Ultimately, our budgets adjusted for inflation and the square footage managed has declined for decades. Yet, somehow, the buildings do not fall down, and

rarely does a student or faculty member suffer from our lack of attention. This seemingly impossible achievement of always doing “more with less” is the result of values shared by our peers.

Ultimately it's not about the money – it's about the institution and the students – and that is why the job always gets done, despite continually declining resources. The last thing that any plant staff member would want is to be responsible for a missed event, class, or research project as a result of inadequate effort. So every year, the work continues and the staff makes do. Much of the time this is a result of a determination to become more effective and find every (and all) ways to maximize the utilization of short resources.

THEY DO IT BECAUSE...

Every once in a while, when the economy is suffering like it is now, we feel good to have a job at all. Despite this, the economy will eventually improve and the pay scales offered to our professions will be below most in the private sector. Even then, the work will continue and progress will be made in support of the educational mission.

Why do they do it? They do it because it is work that has meaning and it is a part of a larger mission of education and service. They do it because they are the kind of people that can find personal and professional satisfaction from within. They do it because there are some people that still see work as service and creation, thereby adding to the world. They do it because they liked the idea of being among those who “contribute and produce” and find satisfaction in that alone. ☎

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