

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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