Siemens Helps Create New Legacy for Historic Florida A&M University

Upgrading aging infrastructure and becoming a more responsible environmental steward are two challenges most universities are eager to pursue, despite the economic downturn and dwindling state budgets. Florida Agricultural and Mechanical University (FAMU) in Tallahassee found a way to make it work, cementing a new legacy for its historic campus.

One of the largest historically black universities in the U.S., with more than 13,000 students, FAMU was founded in 1887 and has more than 100 buildings, only 18% of which were built in the last 10 years. By 2006, the school desperately needed improvements to make the 423-acre campus more energy efficient and to ensure comfortable learning environments. Students also began voicing their desire for sustainable initiatives. Like many American universities, FAMU faced a pressing need to lower its impact on the environment.

Delivering More for Less

Most of FAMU's funding is from the state, so making necessary improvements and going green proved tricky as budgets were shrinking. FAMU determined it needed a partner who could provide financing options, preferably a performance contract that could fund facility improvements through a low-interest loan paid for by future energy savings.

From a short list of four Energy Service Companies (ESCOs), FAMU chose Siemens Industry because of its track record for completing improvements while meeting state requirements that savings substantially exceed initial project costs. Ongoing monitoring, measuring and verification of savings were also key criteria for FAMU's selection of Siemens.

Exceeding Expectations for Campus Improvements

In June 2007, FAMU and Siemens agreed to a 10-year guaranteed performance-based contract to cut waste, improve efficiency, promote conservation and generate more than $3.5 million in savings. After Siemens energy engineers performed a detailed audit of the campus, phase one began in June 2009. The facility improvements are now generating savings for FAMU that will surpass the $2.4 million project costs.

Phase one upgrades included:

Lighting –
Inefficient lamps, ballasts and fixtures, including 40,000 light bulbs in 50 buildings were replaced, delivering about $240,000 in annual savings. Siemens exceeded FAMU expectations by providing 810 more fixtures than required because "it was the right thing to do."

Steam Traps –
Steam leaks from 58 manholes were so prominent they were compared to Yellowstone National Park. Siemens replaced one steam trap and one strainer per manhole and made additional improvements beyond contract requirements to address 90 to 95 percent of the leaks. These upgrades yield about $50,000 in annual savings.

Pipe Insulation –
Proper pipe insulation reduces heat loss and can raise temperatures by two to four degrees. Over 3,700 linear feet of piping was insulated, including about 640 feet extra to give FAMU added value. The project resulted in $80,000 in savings annually.

A Promising Future with Performance Contracts

FAMU facilities team members immediately found it easier to manage buildings and saw a positive impact on the budget after phase one construction was completed in fall 2010. With annual savings of more than $350,000, the project is expected to pay back $3.5 million over 10 years, exceeding total project costs by more than $1 million.

Students are experiencing FAMU's greater environmental commitment with a campus that is more energy efficient. And, in February 2011, FAMU President

James H. Ammons signed a memorandum to join the EPA's Collegiate Sustainability Initiative.

Building on this commitment, FAMU and Siemens are exploring solutions for phase two, such as decentralizing the steam system; implementing Demand Flow™ technology to optimize the central chilled water system; and, to reduce plant energy consumption by 20 to 50 percent, increasing functionality of building controls and adding solar thermal hot water applications. Given outstanding phase one results like reducing CO_2 emissions by 2.3 million pounds, FAMU is confident phase two will be just as successful and continue to bring positive change to the campus.

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