East Stroudsburg University

CUSTOMER BENEFITS

- Improved building comfort
- Enhanced operational efficiency
- Simplified system operations
- Decreased energy costs
- Systems interoperability

PROJECT AT A GLANCE

Project Type:
Energy Performance Contract

Location:
East Stroudsburg, Pennsylvania, USA

Number of Buildings:
61 (1.4 million sq. ft.)

Guaranteed Annual Savings:
$920,270

Energy Conservation Measures:
- HVAC improvements
- DDC control system
- Boiler upgrades
- Humidity controls
- Energy-efficient lighting
- Water-saving plumbing fixtures

Environmental Facts:
In the initial months of the project, East Stroudsburg University has saved energy that is equivalent to ...
- Releasing 1,178 fewer tons of CO_2 into the atmosphere
- Removing 93 cars from the roads
- Planting 126 acres of trees

ESU teamed with Schneider Electric to improve building system performance on campus while achieving year-round comfort levels, increased operational efficiency and guaranteed energy savings to defray improvement costs.

The Challenge

Occupying a picturesque 213-acre campus nestled in the foothills of the Pocono Mountains, East Stroudsburg University is located just 70 miles from New York City and 90 miles from Philadelphia. Founded in 1893 as a “normal school” to prepare future teachers, ESU now offers more than 70 undergraduate degree programs. In 2007, total enrollment in the undergraduate and postgraduate programs topped 7,000.

By 2006, aging building systems had begun to take a toll on the quality of campus life, running counter to the goal of providing an environment conducive to learning – and teaching.

Faculty began voicing complaints about Stroud Hall, which houses lecture halls, computer and language laboratories, instructional spaces, and office areas. Built in the 1960s, this building’s two-pipe, single-loop system operated in either a heating or air-conditioning mode. And once the system was set for a season, it was unable to adapt in response to unexpected weather changes.

"This performance contract will not only save the university thousands of dollars, but will also enhance the quality of campus life."
Scott Heinrich
Manager of Utilities at ESU

The Fine and Performing Arts Center, which comprises two theaters, a gallery, a concert hall and rehearsal areas, faced another challenge – humidity. High humidity levels had the potential of damaging musical instruments and artwork, as well as the building itself.

ESU knew that it had to seek a long-term solution for these two facilities and the other buildings on campus. So the university issued a request for proposals for a guaranteed energy savings project.

Schneider Electric submitted a comprehensive proposal and was chosen to take the next step – an investment-grade audit to assess the costs and savings associated with remedying the problems.

After demonstrating its expertise and ability to look at the "big picture," Schneider Electric won the project. Although this project focused on identifying needs and providing a solution primarily for two buildings, it was more than just about energy savings – it was about achieving system performance standards for all the buildings on campus.

The Solution

Schneider Electric delivered this project with a performance contract, which is a turnkey solution that incorporates system design, construction and commissioning. In addition to guaranteeing the energy savings typically generated by installing new, more efficient equipment and upgrading building system automation, Schneider Electric also agreed to pay the difference if ESU did not realize those energy savings.

Serving as the single point of contact, Schneider Electric oversaw the installation of a variety of energy conservation measures (ECMs) that impact 1.4 million square feet of university space. ECMs included HVAC improvements, direct digital controls (DDCs), energy-efficient lighting and water-saving plumbing systems.

Schneider Electric also upgraded the boilers on campus. New combustion controls and economizers installed on the boiler stacks reduce the amount of energy used to generate steam for heating purposes. Schneider Electric's solution also leverages an open protocol that seamlessly ties together components from different vendors, eliminating ESU's dependence on a proprietary vendor.

Other system upgrades helped the two facilities targeted in this project to become "smart" (i.e., respond to actual building loads without manual input, share data among different systems, provide Web access, and improve efficiency and control).

System upgrades provide automatic system scheduling capabilities, as well as 24x7 Web access to building system operations. Information about alarms, monitoring activities and usage trends are at ESU's fingertips, making it easier for facilities staff to respond quickly.

The Bottom Line

ESU vacated Stroud Hall in the summer of 2007, moving scheduled classes to other buildings. Then, from mid-May through mid-August, Schneider Electric made the first $5 million in improvements. (The total performance contract is valued at $10.1 million over a 15-year period.)

Buildings on ESU's campus are going "green" like many other energy-conscious institutions from coast-to-coast. In this case, the "green" benefits are a result of meeting ESU's operational and energy-saving priorities. Today, building system performance is a priority for ESU, one that leads to valuable bonuses – reduced operational costs, significant energy savings, and increased comfort levels in campus buildings.

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