Thomas Jefferson University Hospital cuts lighting energy use by 51 percent

Encelium Technologies' Energy Control System™ also significantly reduces carbon footprint of 4-million-square-foot healthcare facility in Philadelphia

For both energy conservation and economic reasons, Thomas Jefferson University Hospital, one of the largest healthcare groups in the Philadelphia region, set the goal of reducing its lighting energy consumption by at least 30 percent without sacrificing illumination quality. To accomplish that – and much more – the hospital partnered with Encelium Technologies, the manufacturer of the Energy Control System™ (ECS). Encelium customized its innovative lighting control and energy management solution for Jefferson, which has more than 4 million square feet of clinical, research, teaching and housing property.

THOMAS JEFFERSON UNIVERSITY HOSPITAL

"The results far-exceeded our expectations," said Randy Haines, energy manager for Jefferson's complex. "By giving us the optimal control we wanted, ECS cut our lighting energy consumption by 51 percent, delivering a payback from energy savings in just four years. We also reduced our carbon footprint significantly with a CO_2 reduction of 278 metric tons per year."

ECS™ uses the collaborative power of addressable networking technology in conjunction with advanced control hardware and software. The system seamlessly integrates and simultaneously deploys six user-friendly energy-management strategies. These include personal controls, task tuning, daylight harvesting, smart-time scheduling, occupancy sensors and load shedding. For organizations like Thomas Jefferson University Hospital, ECS has been proven to reduce lighting energy expenditures by 50 to 75 percent while improving workplace comfort, ergonomics and occupant productivity. (See full case study.)

At Thomas Jefferson University Hospital, Haines estimates that lighting represents approximately 15 percent of the healthcare facility's electricity costs – nearly $1.7 million per year. Over the course of several years, he developed an advanced metering system for the facility, allowing him to compare energy information on an interval basis and make decisions based on the most current data. With this information, Haines determined just how effective an advanced lighting control system would be at the facility in reducing lighting energy and delivering a quick payback on investment.

"As with all hospitals, Thomas Jefferson University Hospital is a 24/7 environment with different lighting requirements for its wide range of areas from patient care to administration to laboratories and more," said Tony Marano, president and chief executive officer of Encelium. "Because ECS has the flexibility to meet those varied needs, we were able to provide Jefferson with an integrated approach to lighting control that saves both energy and money."

In 2005, the hospital began its pilot program for advanced lighting with the 10th floor of the complex's historic, century-old Main Building. After that program's success, Jefferson renovated the fifth floor of the Main Building in 2006 as well as the second through fifth floors of the Dorrance H. Hamilton Building in 2007.

"We've seen numerous operational advantages with Encelium's integrated lighting control system, but the bottom line is that ECS has helped us achieve unprecedented lighting-related energy savings," said Haines. "And with the advent of real-time pricing of electricity, the ability to load shed all lighting with a single command is really powerful. We will continue to use the information from ECS to expand our energy conservation plan throughout our campus."

In addition to healthcare facilities, ECS is ideal for retrofits or new construction of office buildings, schools, parking garages, big-box retail, stadiums and warehouse space.

As the most advanced lighting control solution for commercial buildings, ECS typically meets or exceeds today's sustainable requirements for new or existing office buildings, including Title 24, ASHRAE 90.1 and is eligible for various utility rebate programs and local "green" building mandates. The system contributes up to 18 points, depending on the application, toward achieving the coveted U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED).

About Encelium Technologies

Encelium Technologies (www.encelium.com) is a technology development company specializing in integrated lighting control systems for commercial buildings. Encelium manufactures the Energy Control SystemTM (ECS), the most advanced lighting control solution for commercial buildings on the market. The system reduces lighting use and energy costs at a faster rate than other environmental measures and has an average payback of two to five years. Since the company's founding in 2001, ECS has been installed in more than 25 million square feet of commercial space across North America and Europe. Since Encelium's founding in 2001, ECS has been installed in more than 35 million square feet of commercial space across North America and Europe. ECS' reliability and results have yielded nearly a 100 percent annual sales increase over the past two years. Headquartered in Teaneck, N.J., Encelium also has operations in Canada and Europe.

About Thomas Jefferson University Hospital

Thomas Jefferson University Hospitals are dedicated to excellence in patient care, patient safety and the quality of the healthcare experience. In 2010, U.S.News & World Report rated Thomas Jefferson University Hospitals among the nation's top medical centers in eight specialties: Orthopedics; Rehabilitation; Cancer; Ear, Nose and Throat; Gastroenterology; Geriatrics; Gynecology; and Pulmonology. Established in 1825, the Hospital now has 957 licensed acute care beds, with major programs in a wide range of clinical specialties. Services are provided at five locations — the main hospital facility and Jefferson Hospital for Neuroscience, both in Center City Philadelphia; Methodist Hospital in South Philadelphia; Jefferson at the Navy Yard, just past the sports complex; and Jefferson-Voorhees in South Jersey.

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