California State University, Long Beach

This Week @ The Beach

Week of September 10, 2007

Cal State Long Beach Gets Solar Power Project Up and Running with Another One on the Way

The fight to save energy has gone to the roof at California State University, Long Beach (CSULB) with 800 solar panels now atop the Brotman Hall administration building and more planned to be located in the Facilities Management area by year's end.

Photovoltaic (PV) solar power panels, measuring approximately 4 feet by 8 feet and weighing 107 pounds each, have been installed on the roof of Brotman Hall as part of an incentive program sponsored by the California Public Utilities Commission (CPUC), explained Tim Ball, associate director of Facilities Management -- engineering/electrical services and utilities.

Through its public service surcharges included with utility bills, the CPUC funds various incentive programs like Flex Your Power or rebates for energy-efficient appliances, etc. The CPUC earmarks certain funding levels to support various energy incentive programs such as the Self-Generation Incentive Program (SGIP). In September 2000, Assembly Bill 970 called for creating energy supply and demand programs. As a result of the legislation, the CPUC issued a decision in March 2001 creating the SGIP to offer financial incentives to its customers who install certain types of distributed generation facilities to meet all or a portion of their energy needs.

"There are two campus installations of photovoltaic cells," Ball pointed out. "One is in the canopies of covered parking in Facilities Management, which will provide 100 kilowatts of power during peak generation periods. The other is a 225-kilowatt array on the roof of Brotman Hall, which will take care of 80 percent to 90 percent of the building's peak demand periods.

"These two installations represent the university's combined efforts to fulfill the sustainable and renewable energy goals of the CSU," added Ball. "It also represents the university's responsibility to help satisfy the state's electrical needs. There are many environmental benefits associated with this as well."

Ball pointed out that the university's efforts are consistent with the CSU's Executive Order 987 for energy efficiency and sustainability as well as the governor's orders to state agencies to pursue renewable sources of energy.

"In an effort to be compliant with the governor's and the CSU's executive orders, as well as fulfill the ambitions of our Associated Students and other organizations within the CSU, we are attempting to do our part to fulfill our energy objectives," he said.

Ball believes CSULB has one of the most capable campuses in the CSU system in terms of being able to explore power-saving opportunities and to deliver on those opportunities. He points to CSULB's co-generation plant, which creates 200 kilowatts to power and heat the university's pools. He also cites the campus heating and cooling plant, which makes ice at night through the use of thermal energy storage, and, in turn, uses it to cool campus buildings during the day. "This plant alone offsets two megawatts of demand," Ball said. "That translates to the equivalent of powering 200,000 homes."

Physical Planning and Facilities Management has been involved with the energy-saving installations from the beginning, including Ball, who received the Energy Project of the Year Award in 2005 from the Southern California Chapter of the Association of Energy Engineers for his collaborative work on the design and development of several energy efficiency best practices within the university's Molecular and Life Sciences Center.

"In planning for the covered parking area, we had to keep in mind all the underground power utilities and the structural issues involved with providing the proper structural integrity for the covered canopies that will be placed there," Ball noted. "It is up to us to look at the structural, archaeological and seismic disciplines associated with this job.

"Step by step, we have been intimately involved with our contractor, Noresco Holdings Inc. Facilities personnel assisted in preparing the site by providing coordination for electrical connections and pursuing the campus acceptance procedure," he continued. "We will ensure all the existing structures are maintained and protected and that our personnel will receive all the training necessary to maintain the performance of the system once it is in place."

Ball thanked the CSULB administration and campus community for its energy-saving support. "If it weren't for the vision and leadership of the university's top administrators, we never would have been able to execute this," he said. "I want to thank all the team players who made this possible."

The new solar cells offer the university a greater chance at self-sustainability as far as campus power demands are concerned, Ball explained. "With the generation from our corporate yard and the roof of Brotman Hall, we'll be able to reduce the impact of Facilities Management and Administration on the campus from a power standpoint," he said. "Plus, our electrical staff will benefit from knowing how to develop, maintain and operate self-generation systems."

-- Rick Manly

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