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Smart Grid project boosts Sac State’s green commitment

Sacramento State recently completed the installation of an integrated energy management and control system in 39 buildings for greater heating, ventilation and air conditioning automation and control. Energy savings are projected at about $450,000 per year from the high-tech system.

The project began in 2008 after the U.S. Department of Energy awarded the Smart Grid Investment Grant to the Sacramento Municipal Utility District. Sac State partnered with SMUD in the application and was awarded $4.3 million.

The Smart Grid system controls building equipment so that when the Sacramento region’s electric grid is overloaded or stressed, SMUD can issue an automated demand response signal via the Internet. The signal causes fan speeds to slow down and raises building temperature set points, reducing the University’s electrical demand.

“Sacramento State’s strong local partnerships are helping to drive our sustainability efforts on campus,” says University President Alexander Gonzalez. “Our students can be confident that they are attending a university that is contributing to the long-term environmental health of our neighborhoods. I applaud SMUD and our other community partners whose support is essential to our service to the region.”

In keeping with the spirit of sustainability, Sacramento State also has 14 new charging stations for electric vehicles. The stations are connected to the University’s central monitoring and control system to measure energy consumption and how frequently they are used.

“SMUD is excited about our strategic partnership with Sacramento State,” says John Di Stasio, SMUD general manager and CEO. “The partnership not only helps the campus use less energy, it will also provide students a tremendous opportunity to learn the skills that smart grid technologies require, which in turn will make our region more attractive to high-tech companies considering relocation here.”

Those skills are being honed on a parallel track with Sacramento State’s California Smart Grid Center, which recently received a major boost from the California
Energy Commission in the form of a $1.4 million grant. The infusion of funds will enable the innovative center to pursue three critical efficient-energy projects: integrating renewable green energy to reduce the strain on traditional electrical utilities; identifying electrical grid cyber-security issues to help deter an external attack on the nation's electrical system; and designing and refining a customer-based system so homeowners can control their energy use.

Controlling energy use dovetails with the state’s mandate that as many as one of every six homes in California will need to have photovoltaic, or solar, cells on the roof, says Russ Tatro, a smart grid researcher at Sacramento State.

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