

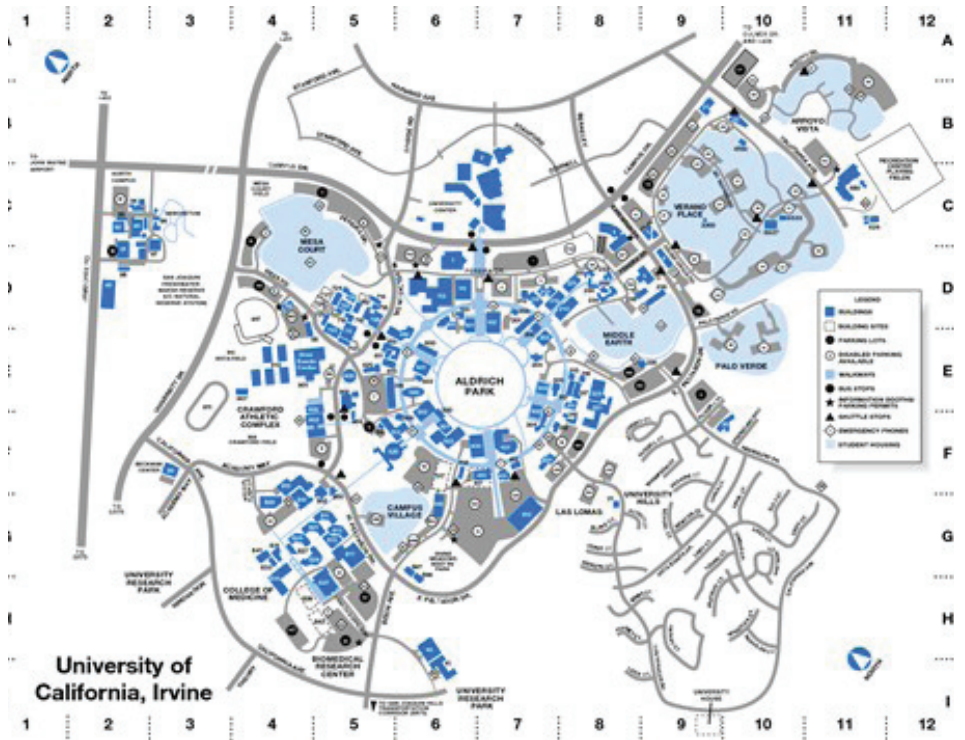
Case Study: Education

No-Cost, Lo-Cost Energy Efficiency

Introduction...

The University of California Irvine (UCI) campus in Orange County, California includes more than 400 buildings spread over 1,474 acres. The campus is served by a central power plant, a central chilled water plant, chilled water and steam loops. The UCI Energy Management department, headed by Matt Gudorf, oversees managing all energy use and generation on campus, including the power plant, chiller plant energy retrofits, the energy commissioning efforts, and the integration of renewables on campus (solar PV and fuel cells).

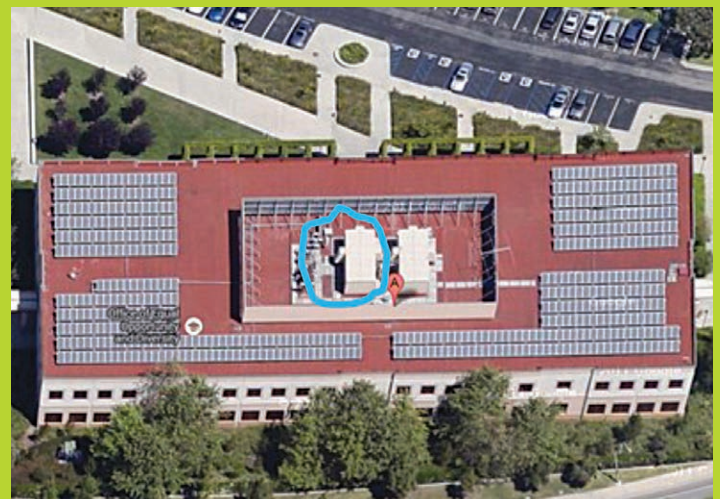
Faced with the formidable challenge of managing an increasingly complex campus power grid, UCI's Energy Management Group was handicapped with the lack of visibility into energy use on campus, lack of real time information and increasing problems with accessing data from meters in over 100 buildings. There was no central dashboard to integrate data from all meters and no automated way to aggregate and analyze data from the different meters/locations on campus. EnergiStream from ElecEnergy was deployed to help solve these problems.

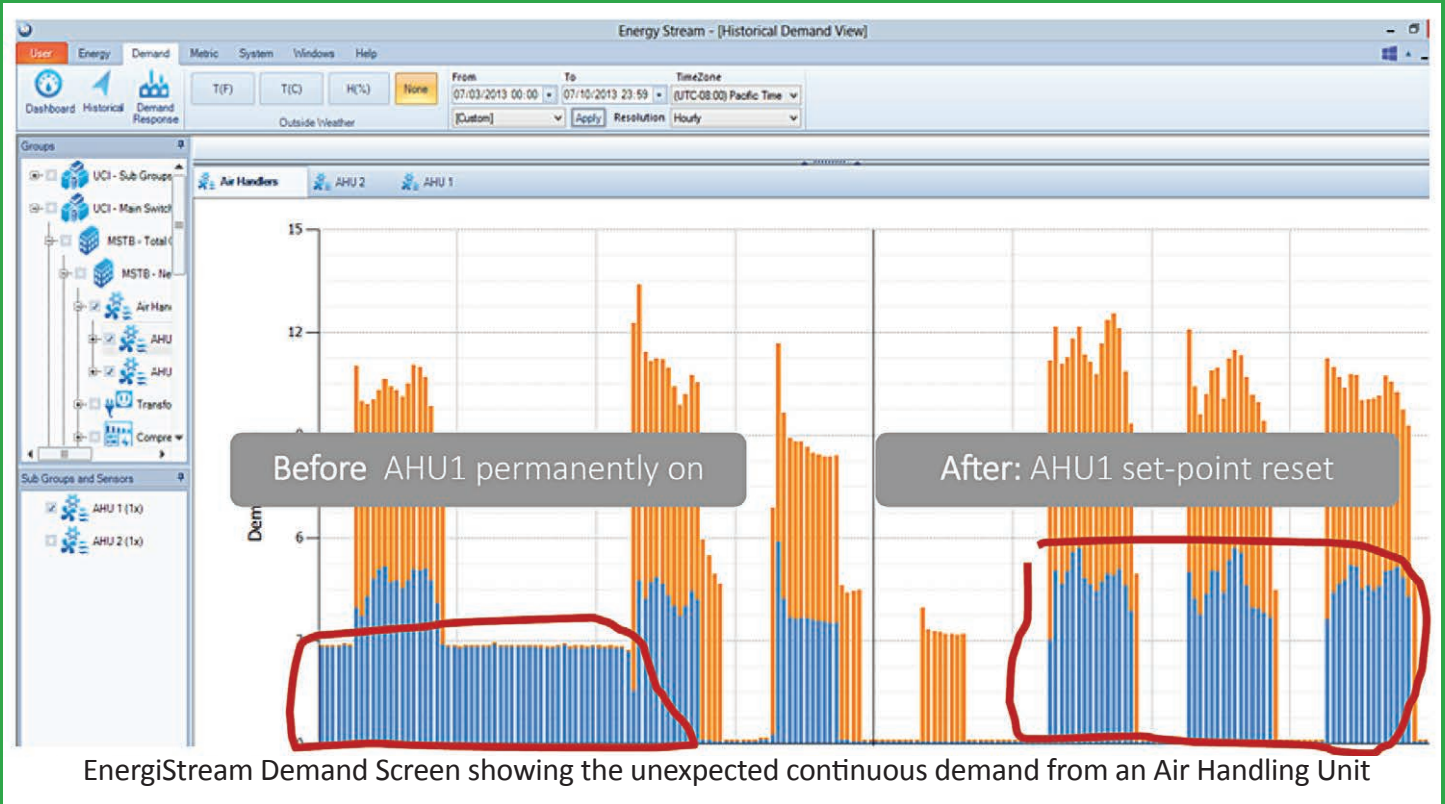


The Issue of a Day...

An automated alert flagged that an Air Handling Unit in one campus building was unexpectedly consuming energy out of pre-set norms.

UCI wanted to act, quickly understand what the cause was and to fix it.





Objectives...

The University pursues an effective management program of no/lo-cost energy efficiency management across all building on campus. Using EnergiStream Alerts & Demand Dashboard they are able to identify out of bound conditions quickly and with a high degree of visualisation and understanding.

Outcomes...

The Energy Management Group were able to rapidly identify what was causing this out-of-bounds condition by analyzing the AHU Group in the MSTB building. The EMS controlling AHU1 had lost its set-point condition.

The EMS was reset and tested. This no/Lo Cost Management Procedure from alert-to-reset took a short amount of time. If this condition had not been automatically flagged it may have continued on a permanent basis resulting in \$2000 per year energy waste.

ADR EVENT OUTCOME

Av. Daily Demand Pre-installation	4 kW
Av. Daily Demand Post-installation	2 kW
Energy Consumed Pre-installation	96 kWh/day
Energy Consumed Post-installation	48 kWh/day
Daily Energy Savings	48 kWh/day
Annual Energy Savings	17,520 kWh/year
Approx. Energy Costs per kWh	\$0.11 per kWh
Approx. Savings (Gross)	\$2,000 per year
	50% reduction