elecenergy
Energy monitoring & efficiency solutions

MT. SAC
Mt. San Antonio College

Case Study: Education
Automated Demand Response (ADR)

Introduction...

Mt. San Antonio College (commonly called Mt. SAC) is a community college located in the Los Angeles suburb of Walnut, California. It is amongst the largest community colleges in California with 52,954 students.

Sitting on 420 acres, it is one of the largest community colleges of California with some of its older buildings having served as part of a small military hospital complex up until WWII.

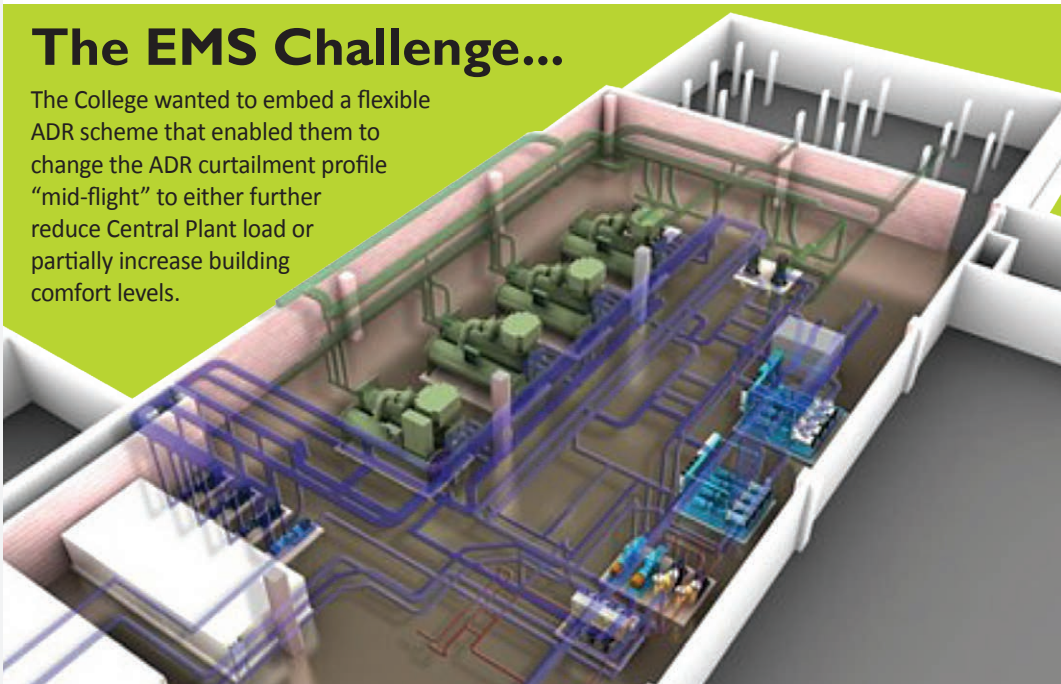
The College also operates a responsible and pro-active energy efficiency program. The energy efficiency program encompasses student engagement through an campus-wide energy information system.

The College has been expanding over the last several years and is continuing to do so. The College Facilities team looking into the future have identified that with this ongoing growth the Central Plant may require expensive enhancements.

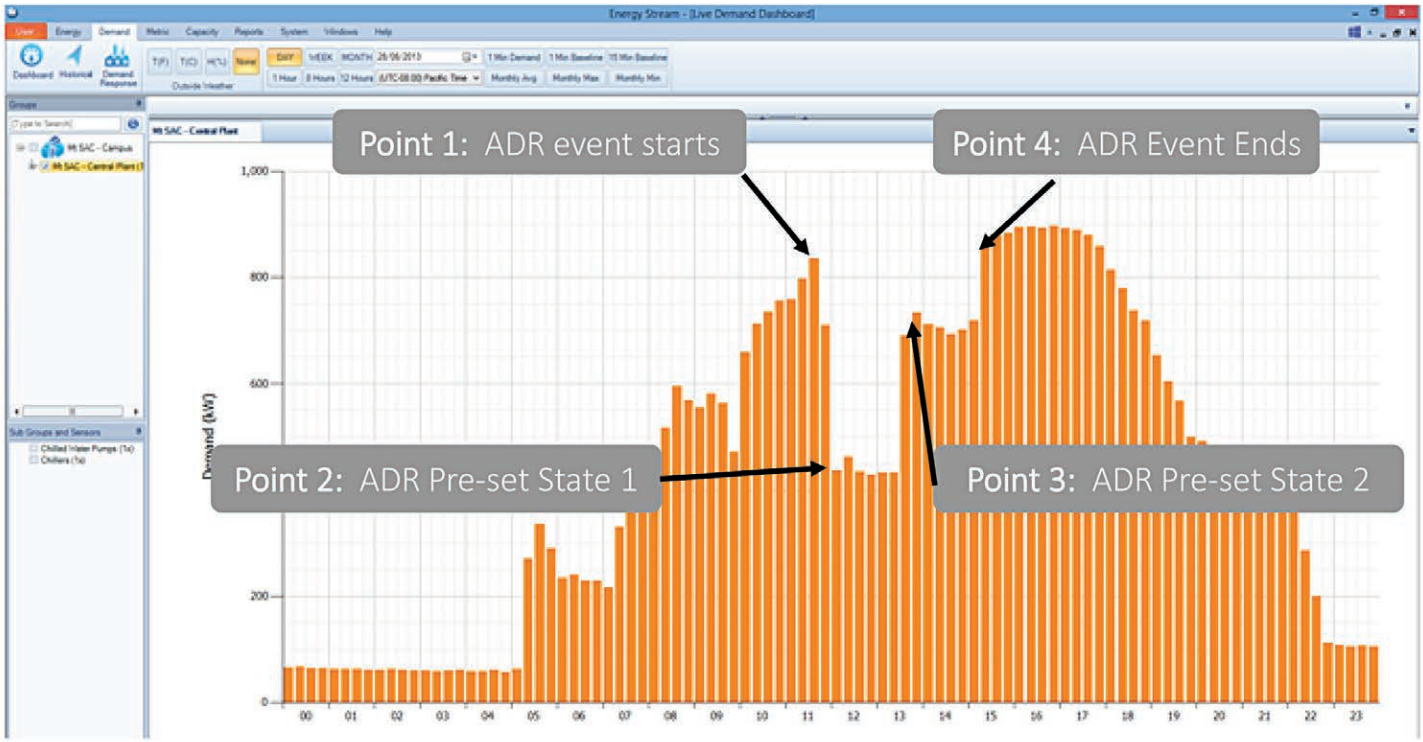
On high temperature summer days the Central Plant operation is operating at close to maximum capability. As opposed to upgrade the Central Plant, the College uses EnergiStream to curtail the EMS and has engaged with Southern California Edison to participate in their ADR Program.

The EMS Challenge...

The College wanted to embed a flexible ADR scheme that enabled them to change the ADR curtailment profile “mid-flight” to either further reduce Central Plant load or partially increase building comfort levels.



Case Study
Mount San Antonio College



EnergiStream Demand Measurement showing ADR event and "in-flight" adjustment of EMS system.

Objectives...

The College required an Energy Information System that allowed them to optimize energy use across 3 distinct areas, 1. M+V for ongoing Baseload Management, 2. Peak Demand Management for 365 day pro-active curtailment & 3. ADR for maximizing utility rebates/technology payment incentives. ElecEnergy's EnergiStream was selected for it's Triple Play concept that delivers on the 3 main requirements.

Outcomes...

The College Facilities Team deploys EnergiStream to "drive" the campus EMS in 16 different states across 10 buildings. The EMS was programmed once, the EnergiStream ADR module allows the College to pre-select any programmed state that in turn reduces load on the Central Plant.

ADR events reduces Central Plant load by upto 40% during peak demand days, therefore offsetting the need for major upgrades entirely or for a considerable period. ADR rebates from SCE also contribute to overall energy savings for the College.

ADR EVENT OUTCOME	
Max Peak Demand **Pre-ADR**	900 kW
Max Peak Demand **during ADR**	450 kW
Energy Consumed **Pre-ADR event**	11 MWh/day
Energy Consumed **Post-ADR event**	10 MWh/day
ADR Reduced Consumption	1 MWh/day
Demand Reduced by ADR event	283 kWh
SCE ADR incentive per kW curtailed	$10.00 per kW
Utility Rebate (Net)	**$2,830 per event**
	40% reduction

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