



California Community Colleges

Emerging Energy Efficient Technology Demonstration

Project Description

Willdan deployed approximately 3,500 Advanced Plug Load Management Devices (APMDs) at California Community College campuses. This project was made possible through an Electric Program Investment Charge (EPIC)-funded grant from the California Energy Commission's Energy Research and Development Division. This emerging energy efficient technology demonstration study:

- Developed an approach for multi-building, multi-campus large-scale deployments of APMDs in the higher education market sector.
- Delivered 147,000 kWh/yr in energy savings, reducing plug loads by 17.7% for customers spanning all four California investor-owned utility territories.
- Deployed two different APMD technologies and evaluated their performance.
- Determined that savings potential was roughly in line with prior studies.
- Successfully trained California Conservation Corps members to deploy APMDs.
- Compiled large amount of data from APMD monitoring systems on over 832,500 kWh of controlled plug loads.

Willdan worked closely with APMD system vendors, California Community College Facilities and Information Technology staff, and the California Conservation Corps (pictured) to deploy two different types of APMDs at 65 buildings across 13 campuses. Key features of the project included outreach and delivery of individual education programs to California Community College Districts (Districts), evaluation of sites for participation in the project, purchase, and installation of APMDs at participating sites, measurement and verification (M&V) activities both pre- and post-APMD implementation at the participating District sites, and post-implementation stakeholder interviews and surveys from District facilities, Information Technology (IT) staff and APMD end-users. The project showed that when properly installed and configured, APMDs provide between 50 and 115 kWh savings per year per unit, on average, depending on specific APMD type.

Annual Energy Savings:

 147,000 kWh

Plug Loads Reduction:

 17.7%

Controlled Plug Loads:

 832,500 kWh

