



BOC™ is a nationally recognized professional development program for building operators offering improved job skills and more comfortable, efficient facilities.

CASE STUDY SERIES

PLEASANT VALLEY SCHOOL DISTRICT

Facing School Closure, CA School District Turns to Energy Efficiency

Pleasant Valley School District, Ventura County, California

Facility Types: Stucco

Facility Square Footage: 650,000

Dates Built: 1868 – 2007

Number of Facilities Personnel: 20

BOC Participant Profiled: Tim Kennaley, Maintenance Supervisor

Pleasant Valley Elementary School District in Ventura County has a district office and 14 schools with an enrollment of 7,459 students for the 2005-2006 school year. In 2003, the district had to close a school due to budget cuts. The committee charged with overseeing the closure asked District Facilities Director Poul Hanson to investigate methods of saving money to avoid another closure in the future. Energy

efficiency was found to hold great potential for cost savings. As part of his new management strategy for saving energy, Hanson enrolled both district HVAC technicians, Tim Kennaley and John Blanco, in Building Operator Certification (BOC) training so that they could learn how to better manage the energy consumption of district facilities. Mr. Kennaley was subsequently promoted to the position of Maintenance Supervisor with the Pleasant Valley School District, and Mr. Hanson has since moved on to work at the Ventura County Office of Education.



Tim Kennaley

Challenges

Inefficient Lighting

The district had T-12 fluorescent lighting in most of their offices, classrooms and hallways, and metal halide lighting in some of the gymnasiums. Exterior lighting was left on for long periods of time.



Camarillo Heights Elementary School in Pleasant Valley School District.

Energy Management

Facilities and maintenance staff were not tracking energy consumption as part of their routine. It was difficult to assess energy consumption without this knowledge or to articulate what needed to be changed.

Operations and Maintenance Inefficiencies

Maintenance was operating largely on a response basis and had a hard time keeping up with a preventative maintenance schedule. Problems with HVAC systems were the most common type of maintenance call, and with Kennaley and Blanco as the only two technical HVAC maintenance staff for the district, their time was eaten up putting out fires rather than preventing them. In addition, other maintenance issues would come up that could not be addressed by Kennaley or Blanco during their visits.

Results

Leverage Programs for Assistance

Hanson first turned to the California Energy Commission Bright Schools Program to obtain assistance with auditing schools and assessing the savings opportunities. The audits identified lighting and HVAC as having the largest potential for energy savings. With this information, Hanson turned to his utility (Southern California Edison) and the Ventura County Regional Energy Alliance to



Los Colinas Middle School in Pleasant Valley School District.

identify contractors and rebates for implementing the lighting retrofits. The Alliance introduced him to the BOC program. Hanson enrolled his staff and also enrolled the district in a summer peak power reduction program (June - September) with the utility to lock in a lower rate schedule.

Energy Management

BOC training helped Kennaley and Blanco identify cost-effective methods of saving energy with existing systems. For HVAC systems, they installed new L-series Chrontrol master time clocks and high efficiency motors, and increased filter changes from once to three times a year. Time clocks with an astral program were also installed for all exterior lighting. The time clocks allowed maintenance to minimize energy use when lighting was not needed and avoid unintentional use of the systems. Teachers were shown how to use bypass timers to control their classrooms and asked to be mindful of leaving exterior doors open when air conditioning was in use. The increased HVAC filter changes resulted in less wear on the motors and some asthma sufferers actually noticed the change and expressed their thanks to maintenance.

Improved Staff Practices

After the BOC training, Hanson sat down with Kennaley and Blanco to review and revise the preventive maintenance schedule. With their increased knowledge of building systems, Kennaley and Blanco



Los Primeros Structured School in Pleasant Valley School District.

can carry out more preventive maintenance practices than ever before. Now when they visit a school, they have a checklist of items to monitor covering all facilities systems, in addition to just fixing the problem they are called on to address. This has greatly reduced the response-driven process and helped the two technicians better serve the needs of all the schools. Importantly, maintenance now works more closely with the teachers and administrators to ensure that they are fully aware of any changes or goals maintenance is planning.

A Worthwhile Investment

In total, Hanson reports the cumulative savings from all the measures implemented in response to the energy investigation is about \$250,000 per year for the district. Kennaley reports that the BOC training is well-rounded, provides great reference material, and advances one's understanding of complete facilities operations. Case in point: The district is now building a new facility and has asked for Kennaley's input in the design process.



Santa Rosa Technical School in Pleasant Valley School District.

BOC National Partners

Midwest Energy Efficiency Alliance, Northeast Energy Efficiency Partnerships, Northwest Energy Education Institute, North Carolina Community College System, Sacramento Municipal Utility District, and Wisconsin Focus on Energy.

About BOC™

BOC™ is a nationally recognized professional development program for building operators offering improved job skills and more comfortable, efficient facilities. Training topics include building systems overview, energy conservation techniques, HVAC systems and controls, lighting and electrical, IAQ, and environmental health and safety regulation. Operators who successfully complete training are awarded the BOC™ designation. Since 1997, over 200 federal sector building operators have earned BOC Level I certification. For more information, visit the BOC web site at www.theBOC.info.