[Education]

Pendleton School District

CUSTOMER BENEFITS

- Guaranteed savings
- Reduced energy consumption and costs
- Improved comfort
- Local and remote system access
- Flexibility to expand

PROJECT AT A GLANCE

Project Type:
Energy Performance Contract

Location:
Pendleton, Oregon, USA

Number of Buildings:
6 of 7 schools (165,743 sq. ft.)

Energy Conservation Measures:

- Energy management system with DDC
- Lighting upgrades
- Replacement of boilers, heat pumps, air handlers, roof-top HVAC units as needed
- Two workstations

Entering into a performance contract with Schneider Electric enabled this rural school district to improve its aging infrastructure and reap additional energy savings.

The Challenge

Pendleton, which occupies 10 square miles in northeastern Oregon, was incorporated in 1880 with a population of 730. By 2000, the census recorded a population of 16,354 for this rural area. Known for hosting the country's most famous rodeo – the Pendleton Round-up – the town's population swells to 50,000 during this annual four-day event every September.

Throughout the remainder of the year, the Pendleton School District is at the heart of this small community. In 2008, the student population numbered 3,140 in the district's seven schools – five of which cater to the elementary grades.

Most of the district's schools were built prior to the 1970s. By 2004, the district recognized the need to replace aging pneumatic systems, reduce energy use, improve HVAC equipment, and add a robust energy management system.

Environmental Facts:

Enhanced system performance in the Pendleton School District has also had a positive environmental impact that translates into …

- Releasing 3,126 fewer tons of carbon dioxide (CO_2) into the atmosphere annually
- Removing 625 cars from the road for a year
- Planting 850 acres of trees to help restore the ecosystem balance

To fund these improvements, the district decided to take advantage of state procurement laws allowing school districts to use an Energy Savings Performance Contract (ESPC). Under ESPC guidelines, a school district may select one experienced company to manage all aspects of an energy project without having to choose the lowest bidder.

A performance contract offers a turnkey solution that incorporates system design, construction and commissioning. It also guarantees energy savings generated by upgrading or replacing existing systems.

After reviewing the district's needs and evaluating potential vendors, Pendleton officials signed a performance contract with Schneider Electric.

Facing a tight schedule and working in occupied buildings presented typical challenges. Having successfully completed projects in hundreds of school districts from coast to coast, Schneider Electric knew what to do and went to work.

The Solution

As with all performance contracts, Schneider Electric began by thoroughly auditing all mechanical and plumbing systems in the six schools selected by district officials. Next, Schneider Electric identified energy conservation measures (ECM) and opportunities for electric and gas savings. After reviewing potential ECMs with district officials, Schneider Electric installed those that best met the district's needs for each school.

In addition to reusing existing equipment wherever possible, Schneider Electric installed an energy management system, upgraded the HVAC equipment, added direct digital controls (DDC), and updated lighting and other equipment as needed. HVAC upgrades included adding or replacing heat pumps, air handlers, boilers and rooftop units with controls.

At the high school, Schneider Electric replaced existing HVAC equipment and lighting controls with a digital control system. In addition, Schneider Electric installed wall-mounted temperature sensors with occupancy sensors, further helping to conserve energy. Outdated T12 fluorescent lamps and magnetic ballasts were replaced with more energy-efficient T8 lamps with electronic ballasts.

One elementary school received a new, 50-HP high-efficiency, low-pressure steam boiler, keeping the old boiler as a backup. Four elementary schools had their outdated time clocks replaced with more modern digital controllers that Schneider Electric networked back to the maintenance office.

Funding for the system improvements came from Oregon Senate Bill 1149 (SB 1149). This state law requires a utility company to set aside a portion of its revenues for "public purposes". This includes giving money to Education Service Districts for energy audits and implementation of energy conservation measures.

Pendleton School District officials leveraged SB 1149 for $284,885 and received approval for a $432,000 Business Energy Tax Credit. Using a pass-through partner who accepted the tax credit eligibility, the district received a cash payment of $124,569 upon completing the project.

Pendleton School District also used grant funding from the U.S. Department of Energy's Rebuild America program to provide technical support and assistance throughout the performance contract process.

"Our energy savings far exceeded Schneider Electric's performance contract guarantee. And now that everything is computerized, I can make system adjustments as needed right in my office."
Pat Steelman
Maintenance Supervisor
Pendleton SD 16R

The Bottom Line

Today, Pendleton School District's annual energy savings continue to exceed the performance contract's guaranteed savings, year after year. Through November 2008, total guaranteed savings amounted to $174,677 and energy savings added up to $315,803.

Adopting a holistic approach to making improvements ultimately yielded greater savings than expected. For example, the district realized maintenance savings as well as energy savings.

Taking a proactive approach to leveraging the district's new ECMs, the maintenance staff troubleshoots, maintains and maximizes the new equipment and controls. Moreover, they can use a remote monitoring capability to access the energy management system from home to analyze performance and change settings as needed.

Staff and students at all buildings involved in this project report improved comfort and air quality.

Schneider Electric 1650 West Crosby Road, Carrollton, TX USA Telephone: +1 972 822 4636 Fax: +1 972 323 5359 www.schneider-electric.com/buildings

PP-EDU-PENDLETON-US.BU.N.EN.8.2010.0.01.CC August 2010 gg