

Eudora Unified School District 491



CUSTOMER BENEFITS

- Guaranteed savings
- Reduced energy consumption
- Local and remote system access
- Flexibility to expand
- Reduced life-cycle costs

PROJECT AT A GLANCE

Project Type:
Energy Performance Contract

Location:
Eudora, Kansas, USA

Number of Buildings:
4 (433,610 sq. ft.)

Projected annual savings:
\$240,097

Energy Conservation Measures – First Project:

- Mechanical system design for two schools
- Building automation system with direct digital controls
- HVAC construction management
- Districtwide energy management system (EMS)
- Districtwide lighting retrofit
- New drop ceilings

Installation:
2004 – 2009



This trailblazing school district took an innovative approach to guaranteeing energy savings for new schools before construction even began with a new type of performance contract from Schneider Electric.

The Challenge

Eudora, Kansas, offers the very best of small-town life in a picturesque, mid-America setting. Since erecting its first schoolhouse in the 1850s, public education has been a priority in Eudora. And since the 1990s, Eudora Unified School District (USD) 491 has experienced steady growth.

To meet the needs of 1,500 students, the Eudora school district operates an early childhood center, as well as elementary, middle and high schools. Moreover, the district boasts programs that deliver enviable levels of personalized education for students across all grade levels.

As the 21st century began, Eudora public schools faced continued growth. Motivated to expand in a manner that would balance student needs and fiscal responsibility, the school district asked several energy service companies (ESCOs) to submit a proposal for renovating building systems to reduce energy costs.

“Schneider Electric gave us the best long-range plan for cost savings and peace of mind that we would have a design and the equipment to meet our energy goals over the years.”

[Don Grosdidier](#)
Superintendent of Schools

After conducting a preliminary energy audit, Schneider Electric submitted a proposal for a traditional performance contract, offering a turnkey solution with guaranteed energy savings. Based on Schneider Electric’s successful experiences working with other school districts – both large and small across the country, Eudora USD 491 signed on the dotted line in 2004 and funded its first project through a municipal loan.

Phase 1 involved renovating some lighting, controls and HVAC systems. In Phase 2, the district asked Schneider Electric to remedy shortcomings stemming from the original systems design, installation and commissioning at the one-year-old high school.

Along with the second performance contract, Schneider Electric developed a plan to save nearly half of the annual utility expenditures at the high school. After recommissioning the high school’s systems, Schneider Electric leveraged savings garnered from Phase 1 to install new HVAC equipment, such as variable fan drives, fans and motors.

A New Approach

The success of the first two phases prompted Eudora USD 491 to ask Schneider Electric to assist in the design and construction of a new elementary school, a new technical education facility, and additions to the high school, middle school and existing elementary. Ultimately, this request gave birth to a novel solution for both Eudora public schools and Schneider Electric: a performance contract for new construction.

A performance contract for new construction guarantees energy savings over the life cycle of a building — even though plans may still be on the drawing board. If those savings are not realized once the building is operational, Schneider Electric will pay the difference. Although Schneider Electric has offered traditional performance contracts since 1992, a performance contract for new construction projects was a first for both parties.

The school district went to the voters with a \$45 million bond issue to finance a new elementary and additions to the middle and high schools. The bond issue passed, and the work began.

The Solution

Prior to making any recommendations, Schneider Electric completed a comprehensive life-cycle cost analysis of potential systems being considered. After reviewing long-term operating, maintenance and energy costs to determine the optimal system for each new construction project, Schneider Electric selected the best system for each situation and then completely designed it.

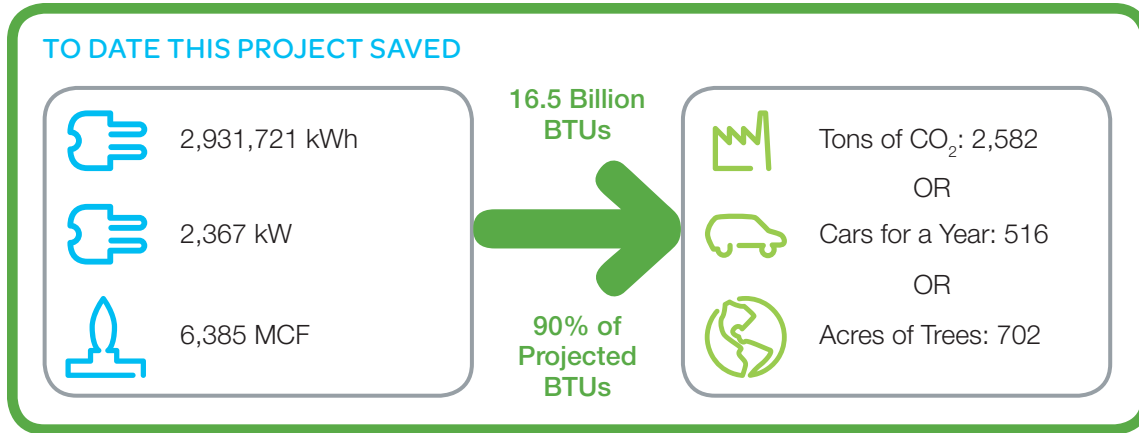
The performance contract for the new construction projects comprised three phases, all of which were financed by the voter-approved bond issue in November 2007.

For Phase 3, Schneider Electric teamed with the architect to select and design systems for the new, 140,000-square-foot elementary school. Schneider Electric recommended a heat-pump system that would yield the best short- and long-term results.

In Phase 4, Schneider Electric worked with the architect to design the mechanical system for an addition to the cafeteria at the middle school. And in Phase 5, the group worked with the architect to design mechanical systems for a new technology building and an addition to the main building at the high school.

Then Schneider Electric managed each project, overseeing each system implementation by qualified contractors. This approach assured a seamless transition from the Schneider Electric design team and maximized the effectiveness and efficiency of the systems installed.

In addition to working closely with architects for the mechanical systems, Schneider Electric held weekly progress meetings with the general contractor and construction company representatives to exchange ideas and information. Schneider Electric also



coordinated its work with that of the plumbers and electricians, and worked closely with the construction management group for ductwork and components.

Once the Schneider Electric team commissioned each system, the Performance Assurance Support Services (PASS) kicked in. PASS provides remote monitoring and technical support along with a complete analysis and reporting of energy use, guaranteeing energy savings after the initial installation.

The Bottom Line

Tired of spending money through the traditional low-bid approach to contracting, Eudora USD 491 leveraged its successful working relationship with Schneider Electric to design, implement and guarantee the energy savings of the mechanical and building automation systems.

Signing Schneider Electric's performance contract for new construction enabled this school district to lock in energy savings and to feel assured that all systems design, installation and commissioning would be executed properly the first time, every time.

The performance contract for the new construction projects tied back into the original, traditional performance contracts, and all are covered by Schneider Electric's PASS offering.

Since Eudora USD 491 began teaming with Schneider Electric, the performance contracts have outpaced the guaranteed annual savings and yielded more than \$1 million in savings for the school district.

THE SCHNEIDER ELECTRIC DIFFERENCE

Collaboration	Experience with general contractors, construction managers and other professionals (e.g., plumbers, electricians, tradesmen)
Communication	Open, reliable interface for stakeholders and cross-functional entities
Expectations	Systems operating as designed from day one
"No-Change-Order" Guarantee	Costs quoted during design phase remain unchanged if design intent stays the same
Professionalism	Accountability, attention to detail, no "finger-pointing"
Responsiveness	Timely accessibility, personal attention and project execution
Training	Systems operation and self-maintenance/management
Workshops	Information exchanges about performance contracting for interested parties (e.g., officials, architects, engineering firms, funding sources)

