

Alexander City Schools



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:

Alexander City, Alabama, USA

Number of Buildings:

6 (610,000 sq. ft.)

Projected Annual Savings:

\$116,211

Guaranteed Annual Savings:

\$100,869

(including \$13,929 in stipulated* savings)

** Stipulated savings are agreed upon but not necessarily tracked*



This forward-looking school district leveraged energy savings from a performance contract with Schneider Electric to fund improvements designed to enhance energy efficiency and comfort levels in all of its facilities.

The Challenge

Nestled in the heart of east central Alabama, “Alex City” (as locals refer to it) traces its frontier roots back to 1698. Incorporated in 1872, the area’s most recognizable natural asset is Lake Martin. With 750 miles of wooded shoreline and 44,000 acres of crystal clear water, this was the world’s largest man-made lake at the time of its creation in 1926.

The 2000 census recorded a population of 15,008 for this picturesque city by the lake. In 2008, the school district enrolled 3,500 students at five locations – three for the elementary levels (K-2, 3-4 and 5-6), one middle school for grades 7-8, and a high school serving students in grades 9-12.

Energy Conservation Measures:

- TAC Vista™ energy management system with DDC and enable/disable controls
- Lighting retrofits
- VAV box retrofits
- VFDs
- New air-cooled chiller
- Air duct rerouting in Central Office

Environmental Facts:

Enhanced system performance in the Alexander City Schools has also had a positive environmental impact that translates into ...

- Releasing 736 fewer tons of carbon dioxide (CO₂) into the atmosphere annually
- Removing 147 cars from the road for a year
- Planting 200 acres of trees to help restore the ecosystem balance

By 2007, aging facilities and outdated building management systems presented a variety of challenges. The mechanical system in the district's Central Office was failing, and all facilities lacked adequate building controls. School staff reported comfort and lighting issues that were impacting the learning environment. Humidity was also an issue in certain buildings due to their close proximity to Lake Martin.

Facing a need to improve operations, comfort levels and energy efficiency at all facilities throughout the school district, officials began to explore ways to fund the necessary improvements.

In 2007, school district officials gave Schneider Electric the go-ahead to perform a preliminary audit to assess building system needs. After reviewing the audit results, Schneider Electric submitted a proposal to school officials for a performance contract to address those needs.

A performance contract is a turnkey solution that incorporates system design, construction and commissioning along with guaranteed energy savings. In the event district officials do not realize those savings, Schneider Electric agrees to pay the difference.

Convinced that a performance contract offered the best possible solution for implementing more than \$1 million in facility enhancements, officials for Alexander City Schools entered into a performance contract with Schneider Electric.

The Solution

Schneider Electric installed a TAC Vista™ building management system throughout the district, adding direct digital controls (DDC) for heavy mechanical equipment such as chillers, VFDs and pumps. The system's enable/disable capability allows the facilities staff to schedule operations tailored to nights, weekends and holidays, and in response to changing environmental conditions.

Retro-fitting the variable air volume (VAV) equipment wherever needed provided greater control over airflow. Installation of variable frequency drives (VFDs) improved the operating efficiency of heating, ventilating and air-conditioning (HVAC) systems.

Replacing an inefficient 50-gallon water loop with a new 150-gallon unit and an air-cooled chiller improved operating efficiency. It also resulted in an ability to replace two separate pieces of equipment with a single unit.

Classrooms, hallways in three of the five schools and the administration building underwent a lighting makeover. Schneider Electric replaced T12 lighting and magnetic ballasts with more energy-efficient T8 lights and electronic ballasts.

Schneider Electric also retro-fitted six gyms with more energy-efficient lighting. The retro-fit involved replacing metal halide lights with high-bay, T8 fluorescent lights and electronic ballasts, providing an "instant strike" capability whenever someone turns on a switch.

The school district achieved enduring performance improvements through Schneider Electric's Performance Assurance Support Services (PASS) offering. PASS provides remote monitoring and technical support, as well as a complete analysis and reporting of energy usage. This annually renewable contract also guarantees energy savings and project performance after the initial installation.

“As our facilities have aged, a variety of mechanical systems have needed to be updated to improve comfort and efficiency. The great benefit of this performance contract is that we can use the dollars we are already spending for utilities to complete these projects.”

[Dr. Tommy Bice](#)

[Former Superintendent](#)

[Currently Deputy State Superintendent](#)

The Bottom Line

The performance contract has enabled Alexander City Schools to implement almost \$1.2 million in facility improvements without straining their existing budget. This contract has also reduced energy costs by 27 percent district-wide, translating into a projected annual utility savings of \$116,211. Schneider Electric guarantees \$100,869 of that amount annually.

With the new TAC Vista™ system, facilities staff can quickly monitor, verify and modify operations at facilities throughout the district. Comfort levels have also improved in the administration building where energy costs have dropped more than 50 percent.

