

Texas Parks & Wildlife Department



CUSTOMER BENEFITS

- Improved indoor air quality
- Guaranteed savings
- Performance assurance service
- Increased system flexibility and redundancy

PROJECT AT A GLANCE

Project Type:

Energy Performance Contract

Location:

Austin, Texas, USA

Number of Buildings:

2 (189,318 sq.ft.)

Guaranteed Annual Savings:

- \$130,145 the first year
- Approx. \$107,000 each following year

Energy Conservation Measures:

- High-efficiency transformers
- Mechanical system upgrades
- New vestibule
- Energy management system upgrade
- Lighting retrofit
- Water conservation measures
- Window film



Signing a performance contract with Schneider Electric helped put Texas Parks & Wildlife Department (TPWD) on the road to achieving its goals – better indoor air quality, more efficient systems operations, and guaranteed energy savings to pay for the improvements.

The Challenge

In 1895 the Texas legislature created the Fish and Oyster Commission, giving it responsibility for regulating fishing activities in the state. In 1963, this agency merged with the State Parks Board and the Game and Fish Commission to become the TPWD.

The 1983, Wildlife Conservation Act gave TPWD full authority to manage and protect fishing, wildlife, parklands and historic areas throughout the state. Today, TPWD oversees more than 100 recreational and historic sites encompassing 600,000 acres.

TPWD's headquarters are in Austin. Two buildings house the agency's 11 internal divisions, which provide services ranging from law enforcement and licensing to IT services, administration and communications.

Motivated by a desire to improve indoor air quality at its headquarters and make its operations more energy-efficient, TPWD asked qualified vendors to bid on providing a performance contract. (This turnkey solution incorporates

Environmental Facts:

Enhanced system performance had a positive environmental impact that translates into ...

- Releasing 3,785 fewer tons of carbon dioxide (CO₂) into the atmosphere annually
- Removing 757 cars from the roads for a year
- Planting 1,030 acres of trees to help restore the ecosystem balance

system design, construction and commissioning while guaranteeing energy savings typically generated by upgrading existing systems or installing new ones.)

A highly competitive bid process narrowed the potential list of vendors to a short list of five. Ultimately, TPWD selected Schneider Electric because of its expertise and experience, reliable and knowledgeable staff, and proven processes/procedures to get the job done right.

Moreover, Schneider Electric agreed to deliver enduring performance improvements with its Performance Assurance Support Services (PASS) offering. PASS provides remote monitoring and technical support, as well as complete analysis and reporting of energy usage. PASS, an annually renewable contract, also guarantees energy savings and project performance after the initial installation.

The project, which involved implementing a broad range of energy conservation measures (ECMs), presented some challenges. Schneider Electric would have to work around employees during the day. They must also protect certain work areas each night while crews changed out ductwork, cleaned the plenum, and installed new lighting.

The Solution

Schneider Electric conducted a thorough audit of TPWD's headquarters. After analyzing the results, Schneider Electric recommended replacing certain systems, adding new ones, and retro-fitting others. TPWD agreed to the recommendations and Schneider Electric began to implement them.

Installation of a new, high-efficiency transformer improved distribution of power throughout the facilities. Construction of a new vestibule at the north entrance of the main building eliminated

the "wind tunnel" created whenever doors at the south entrance were opened simultaneously.

Installation of new hot water boilers made heating the buildings more efficient. Schneider Electric also modified the air distribution system, including VAV handlers and variable frequency drivers, and cleaned every inch of the ductwork and plenum.

Replacing the old cooling tower with a new one allowed the chillers to use energy more efficiently to cool the buildings. Installation of a new helical rotary screw chiller provided intelligent control, enabling TPWD to switch between a small, low-load chiller and one providing more chilling power as required.

Other mechanical system upgrades yielded additional energy efficiencies. Schneider Electric converted the variable flow pumping system, replaced rooftop units, and installed air conditioning in the warehouse. New domestic hot water heaters made it possible to deliver hot water on demand for the cafeteria/kitchen.

Schneider Electric leveraged TPWD's investment in an existing energy management system, expanding its capabilities by adding 50 controllers to optimize operations.

Retro-fitting the lighting involved exchanging outdated T12 lamps and metal ballasts for more energy-efficient T8 bulbs and electronic ballasts. Installing new toilets and low-flow aerators on sinks conserved water usage. And, applying film on the windows lowered energy costs, especially during long, hot Texas summers.

The Bottom Line

Schneider Electric delivered on its promise of guaranteed savings. Between October 2005 and December 2008, TPWD realized a savings of \$366,762 – an amount greater than the guaranteed savings specified in the performance contract. Schneider Electric also provided initial and ongoing training, to continue maximizing TPWD's energy savings.

Changes to the HVAC system eliminated "hot" and "cold" spots resulting from insufficient airflow. Centralized building controls make it easier to manage both buildings with a single system. Lighting retro-fits brought the department into compliance with state standards.