



PROJECT AT A GLANCE

Location:

Graham, Texas, USA

Buildings:

6 schools

Project type:

Performance contract

Financing:

State Energy Conservation Office

Guaranteed annual savings:

\$65,885

Energy conservation measures:

- Lighting retrofits
- HVAC upgrades
- New control system

Environmental facts:

Graham Independent School District annually saves energy that is equivalent to reducing 1,130 tons of CO₂ from the atmosphere, removing 226 automobiles off of the roadway, or planting 307 acres of trees.

Graham Independent School District

Motivated to make much-needed retrofits to its building systems, Graham Independent School District opted to pay for the retrofits with energy savings guaranteed by a performance contract.

THE CHALLENGE

This picturesque community of 9,000 people just northwest of Fort Worth has a student enrollment of 2,400 in grades K-12. With six schools scattered across 491 acres, the district realized that the time had come to retrofit aging building systems.

The multi-zone design at the junior high was functioning poorly and required most zones to be manually changed over from heating to cooling. In addition, throughout the district there was no way to automatically schedule building systems to turn off after hours, on weekends and during holidays.

Graham ISD decided to pursue a solution that would make the district's systems more energy efficient and manageable. The challenge was to find an innovative way to fund the system retrofits.

TAC Energy Solutions proposed a performance contract that would allow Graham ISD to use guaranteed energy savings to fund the \$1.2 million project. And a state program provided the financing at a special rate because the design of the retrofits would conserve energy.

THE SOLUTION

After conducting an energy audit, TAC Energy Solutions worked closely with Graham ISD to develop a plan to meet the district's specific needs.

To improve comfort levels throughout the junior high school, the Energy Solutions group converted the main air conditioning system from packaged, multi-zoned units with chilled water and steam heating to individual classroom units. Also, the addition of new

CUSTOMER BENEFITS

- **Guaranteed energy savings**
- **Reduction of manual system and equipment maintenance**
- **Improved occupant comfort**
- **Local and remote access from the desktop**
- **Self-maintained and managed system**

Graham Independent School District

air conditioning units in the senior high school's competition gym and the junior high school's gym greatly enhanced the comfort of all who use these facilities.

Districtwide retrofits included replacing T12 lighting with more energy-efficient and better quality T8 lamps to cut energy consumption and costs. Also, installing a new building control system gives the facilities staff local and remote access to adjust all building schedules quickly and easily.

THE BOTTOM LINE

In the first year of the performance contract, Graham ISD saved more than \$75,000 – exceeding the projected annual energy savings of \$65,885.

TAC trained the district's staff to self-maintain and manage the new building control system. As a result, the staff is now able to schedule automatic shutdown of building systems throughout the district to conserve energy and control costs when school facilities are not in use.

EDUCATION PROFILE

Parents and students have high expectations when they select a school, whether it is public or private. They require a quality education and an experience that prepares students for the future. State-of-the-art facilities, safety and security are of primary concern. In order to meet rising expectations within this cost-sensitive market, schools, colleges and universities must invest wisely in their facilities as a strategic asset to keep occupants comfortable and attract faculty and staff.

TAC has proven experience with public schools, private schools and higher educational facilities in providing building management solutions that maximize energy efficiency and performance. This leads to a reduction in operating costs and enables the reallocation of saved resources to new programs for students within the same budget.

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