

# ENERGY EFFICIENCY CASE STUDY

## McKINNEY NORTH HIGH SCHOOL

### McKINNEY ISD

#### **Introduction**

McKinney North High School in McKinney ISD was constructed with energy efficiency in mind and has been operated very efficiently by the District. Some of the energy-saving features are listed below.

#### **Building Features**

- High-efficiency air conditioning
  - Gas/electric rooftop units plus energy recovery module
  - 12 EER
  - Zoning for flexibility of use
  - Test and balance
- Efficient lighting
  - Daylighting in corridors
  - LED exit lights
  - T-8 lamps with electronic ballasts
  - Bi-level switching in classrooms
- High performance energy management control system
  - Building systems automation
  - Remote monitoring and control
  - Lighting controls
    - Outdoor – multiple zones
- Water saving feature
  - Low-use water fixtures
  - Infrared controls on wash fountains
- Insulation at roof deck



#### **MISD Operations**

- Comprehensive professional energy management program
- Efficient Owner operations, maintenance, and building scheduling

#### **Energy Efficient School**

The electric and natural gas usage and cost data verifies the energy efficiency mindset apparent during design, operations, and maintenance. For the school year ending in June 2004:

- Total electric cost: \$219,096
- Total natural gas cost: \$11,266
- kwh per square foot: 8.77
- Energy cost index (ECI): \$0.62
- Energy use index (EUI): 38,273 Btu/square foot

Both the ECI and EUI are excellent for a Texas high school. The ECI is more than 30% below the target of \$1.00 per square foot guideline from the Texas Comptroller's Office and the EUI is 20% below Department of Energy guidelines.