

NORTHWEST CATHOLIC HIGH SCHOOL

Energy Savings and a More Efficient Learning Environment

Building Controls Upgrade leads to Reduced Energy Consumption

Challenge

Northwest Catholic High School wanted to reduce energy consumption, save money and improve the learning environment at their school.

Solution

Trane provided a Tracer Summit® Building Management System which gives Northwest Catholic the ability to monitor and modify the building environment to ensure that the school is operating at peak efficiency. Trane also completed a lighting retrofit and installed premium efficiency pump motors and lighting and vending machine occupancy sensors.

Project Scope

\$395,000 project included:

- An energy audit
- A Tracer Summit Building Management System
- Tracer Summit WebOPS for secure remote access via the internet
- Retrofit of outdated pneumatic controls with new Direct Digital Controls (DDC), actuators and sensors
- A lighting retrofit that began with an evaluation of 1,297 fixtures and ended with an energy efficiency upgrade to 184 fixtures resulting in an annual savings of 45,521 kWh
- Installation of 197 single and dual technology PIR (Passive Infrared) and Microphonics® (sound detection) occupancy sensors to control the lighting fixtures throughout the school for an annual savings of 77,724 kWh
- Installation of two new premium efficiency pump motors for the heating hot water loop
- Vending machine occupancy sensors to allow the units to cycle 'off' during periods of un-occupancy for an annual savings of 4,240 kWh
- Owner training on the Energy Management System

Results

Annual kWh Savings: 277,979 kWh (the equivalent of 23 homes provided with electricity for one year)

Lifetime kWh Savings: 4,164,328 kWh (per ASHRAE and utility guidelines, estimated lifetime is 15 years)

Positive Environmental Impact:

210,000 pounds of carbon dioxide (CO₂) emissions avoided
or 98,100 pounds of coal not burned
or 13,000 gallons of oil not burned

Annual Energy Savings: \$78,000 at 2007 utility tariffs

CT Energy Efficiency Fund (CEEF) Incentive: \$218,000

Simple Payback: 2.5 years with a ROI (Return on Investment): 39.7%



Northwest Catholic High School

Northwest Catholic, a coed college-prep high school with approximately 640 students in grades 9-12, is located in West Hartford, Connecticut. Established in 1961 by the Archdiocese of Hartford, Northwest Catholic is committed to academic excellence, personal attention and the development of faith and moral values. Of the 139 graduates in 2007, 100% continued their education.

Accredited by the New England Association of Schools and Colleges and the Connecticut State Department of Education, Northwest Catholic had been named a National School of Excellence.

For more information, contact your local Trane office at 860-678-3300 or visit www.trane.com/hartford

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