

Improving Efficiency of Server Equipment Cooling

CONTINENTAL LOCAL SCHOOLS



Continental Local Schools provides cooling to their buildings with a central chiller, pictured above.

BACKGROUND

Continental Local Schools (CLS) incorporates a dedicated room for server equipment on campus, which requires 24 hour cooling. Historically, CLS has used cooling from the campus central plant (operated continuously) to support the space. By running chillers designed to support the entire campus through the night and on weekends, CLS was using significantly more energy to cool the space than was necessary.

RESULTS

- Reduction in energy cost
- Improved HVAC efficiency
- Utilization of right sized equipment
- Greater control over cooling systems

Continental Local Schools realized significant savings by installing a dedicated HVAC unit that was correctly sized to meet operational needs

CASE SUMMARY

Industry
Education

Building Type
Elementary and High School

Program Type
Data Center Energy Efficiency Program

Measures Implemented
New Dedicated Cooling System

Total Project Cost
\$5,565

Project Annual Energy Savings
112,076 kWh

Project Incentive
\$2,782.50

Payback Period without AEP Ohio Incentive
Approximately 0.6 years

Payback Period with AEP Ohio Incentive
Approximately 0.3 years



The Situation

CLS uses a centralized facilities plant for cooling needs throughout the campus. The majority of buildings only require HVAC service during occupied hours. However, the school's server equipment room was designed to require continuous cooling.

This has historically been provided using the central cooling plant, which is inefficient from both an energy and economic perspective. Specifically, this resulted in larger equipment operating than what the server equipment room required – a 270 ton chiller was used to provide enough cooling for a 92,000 square foot building while only cooling for a 1,200 square foot server equipment room was required overnight and during unoccupied times.

The Solution

CLS purchased a dedicated cooling unit to support the server equipment room, allowing the chiller to shut off when the main building is unoccupied. The smaller cooling unit allows CLS to cool the space with increased energy efficiency due to the correct sizing of the equipment. The equipment was easily installed in the space and savings were realized

About AEP Ohio's energy efficiency programs for businesses

AEP Ohio's Business Incentives program provides cash incentives to help business customers purchase and install energy efficient equipment. Prescriptive incentives are available for common commercial and industrial measures including lighting, HVAC, motors and drives, refrigeration, and food preparation and storage equipment. Custom incentives are available for process improvements and other measures not covered through prescriptive incentives

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immediately by altering the central plant chiller schedule.

The Results Key Benefits & Savings

Through working with AEP-Ohio's Data Center Energy Efficiency team, CLS received incentives for their project which enhanced project payback.



Newly installed cooling unit dedicated to the computer lab.

The project resulted in on-going energy and operating costs savings for CLS in addition to the incentive they received for the project. Throughout the process, CLS worked with the Data Center Energy Efficiency team who assisted CLS to quantify the savings and complete the application to receive their incentive. All of these services were provided at no cost to CLS.

Disclaimer: AEP Ohio does not guarantee the energy savings and does not make any warranties associated with the measures eligible for incentives under this program.

