CASE STUDY

The Metropolitan School District of Decatur Township, Indianapolis, Indiana USA

Facility Type: School

Circon System Integrator: Davis Industries Inc.

THE CLIENT

The Metropolitan School District of Decatur Township is comprised of six schools and a total of nine buildings. The district administers a total of 5,000 students and 500 teachers.

THE CHALLENGE

The prime directive of Decatur Township was maintaining a comfortable and healthy learning environment, where they had been experiencing ongoing complaints from both staff and students. The required HVAC systems had to adhere to the strict IAQ regulations, and operate efficiently to keep operating costs as low as possible. The large number of rooms and continuously changing staff and student needs across the district increased the challenge.

Decatur Township also required central monitoring and control capabilities – from one location or any remote location. Initially this system had to perform HVAC controls, and it had to allow for the integration of other facility management controls in the future. Simplicity of use was necessary to allow maintenance staff to easily use and modify the system. And an effective budgetary solution, including power monitoring that could accurately forecast long-term savings, was essential.

THE SOLUTION

The Circon Building Automation System was chosen because it offered a flexible, non–proprietary answer to the customer's immediate and long-term objectives. Circon's open architecture provides the foundation for future control capabilities such as lighting, security and card access. Circon's programmable controls and system manager connect all control functions with true peer-to-peer communications.

The state of the art system is effectively monitored from a single center, reducing the time and cost of management, monitoring and troubleshooting. At the same time, the district is assured the highest levels of efficiency, reducing energy consumption and maintaining comfortable temperature levels year round through a single system. The annual energy cost savings of $235,000 effectively financed the new system. Maintenance staff can now find and solve problems before students or administration are aware they exist. And improved overall comfort has enhanced the learning environment across the district.

"We liked the idea of having an Open System, and that is the main reason we purchased the Circon control package. It does a much better job of controlling what we want to control, and I have certainly seen a reduction in the number of complaints from staff." - **Bill Smith**, assistant superintendent, Decatur Township.

THE DETAILS

HIGHLIGHTS

- Energy savings provided project funding within budgetary goals, with no resultant tax increase or capital expenditures necessary within the district
- Mechanical and lighting systems meet or surpass all government regulations
- District wide installation of Circon Building Automation System
- System monitoring and control for all six schools through the district maintenance office
- Open protocol system provided not only simplicity but ease of future expansion

HVAC CONTROLS

- → Reduced energy consumption
- → Increased ability to schedule based on building occupancy
- → Increased comfort
- → Extended mechanical system life
- → Seamless integration of 300 McQuay International water source pump systems
- → Similar integration of Asea Brown Boveri (ABB) variable speed drives
- → Consistent indoor temperature control

Circon LonWorks® technology based controllers were installed to program the sequence of operations to control multiple rooftop units and air handlers. In all, 1,200 tons of heating and cooling capacity were retrofitted and placed under control of a single network. The third party pumps and drives are equipped with built in LonWorks control, and were installed using the Circon System Integrator software as if they were any other node on the network. This allows pertinent data for each pump or drive to be viewed as an individual component. It also provides true third party integration, and frees Decatur Township to choose the best supply option available when selecting future mechanical and control expansion suppliers.

SYSTEM MANAGEMENT

- → Complete heating and cooling control within the District
- → Total, real time monitoring and management via Windows PC format
- → Custom designed user friendly GUI (graphical user interface) with point and click maneuverability
- → Site management controller intelligently handles all alarms
- → LonWorks based technology allows unlimited expansion options

Circon's Building Management software, in Windows PC format, allows the building supervisor total monitoring control, with the ability to view real time information on building conditions and mechanical system status as well as change temperature set points and operating schedules. The Circon site management controller collects, prioritizes and transmits alarms to the appropriate personnel, so that proactive and preventative maintenance can be performed. Both the software and the controller allow Decatur Township to consider a wide variety of LonWorks based systems and solutions to meet future needs seamlessly and cost effectively.

"I have very little background in computers, but with the Circon System I can diagnose 50% of the problem before dispatching a guy to the site, and I can do it from any location in the district. My response time and troubleshooting capabilities have increased significantly, and so has the efficiency of my maintenance staff." - **Tim Cook**, maintenance supervisor, Decatur Township.

If you would like further information on this case study, Efficient Building Automation Corporation (EBAC), or more on our products and services, please refer to the contact information below.

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