EDUCATION

Project Profile

Boulder Valley, Colorado Schools Get Top Grade in Energy Savings

"With Infinity, Boulder school buildings operate only the hours they need to operate and not an hour more."

—Jim Walsh
President of Energy Services Associates, Inc.

Students attending public school in Boulder Valley, Colorado are assured of learning in a comfortable environment as Boulder's school administrators and taxpayers reap the substantial savings achieved by an energy savings program featuring Andover *Infinity* and a district-wide lighting modernization program.

The Boulder Valley School district covers 50 buildings, 25,000 students, and 500 square miles. It also covers a wide geographical range from the Continental Divide to Denver; and every size school building imaginable—from the state's oldest operating schoolhouse to a new state-of-the-art high school facility under construction. The *types* of buildings in the district vary also—from classrooms, offices, and maintenance facilities to sport stadiums and auditoriums, highlighting the school district's need for diversified control strategies.

Local Andover Facility Automation Representative, *Westover Controls* of Denver, Colorado, was selected to install a $2.5 million *Infinity* system after Energy Service Associates, Inc., a turnkey energy project company hired by the school district to manage the project, solicited proposals nationally for the district-wide building automation system.

The key factor in Andover's winning of the project, according to Jim Walsh, President of Energy Services Associates, Inc., was the "backward compatibility" built into the *Infinity* system. The Boulder Valley School district did not want to find themselves with equipment "obsoleted" by newer BAS products. And during the school district's evaluation process, Jim Walsh adds, "the Andover/ Westover team stood at the head of the class when it came to detecting problems hampering energy savings for Boulder Valley schools."

The "control center" for the Andover *Infinity* system resides in the school administration building where a 3-workstation SX 8000 system supports dial-up and Ethernet communications to Boulder's 50 school sites. From this central location, maintenance personnel can troubleshoot many of the alarms over the network and avoid redundant service calls to school sites spread out across the district. And *Infinity's* always in the principal's office! Installed in or nearby each school administrator's office is an *Infinity* DCX 250 touch screen display, which allows school personnel to quickly and easily perform local scheduling and override functions for special after-hours school, sport, and community functions.

Andover Controls

The flexible scheduling capabilities of *Infinity* SX 8000 have proven to be a key energy savings strategy for the Boulder Valley schools. According to Walsh, with *Infinity*, Boulder school buildings operate only the hours they need to operate and not an hour more. School buildings are scheduled in an "unoccupied mode" not only during obvious downtime, i.e., weekends, school holidays, and vacations; but also during marginal time periods such as between 3:00 p.m. and 5:00 p.m. HVAC and lighting needs are lower during this two-hour time period between the time classes end and community functions begin and can be scheduled accordingly through the SX 8000, further impacting Boulder's energy savings.

Another exciting and unique part of the Boulder Valley Energy Project was the installation of weather stations by *Westover Controls* at three different schools. These stations, which are part of the district-wide Andover network, record and monitor temperature, humidity, barometric pressure, wind speed, and direction. Thanks to Denver television station KCNC, real-time weather data is available from the three schools via the Boulder Valley School District's Internet site. Schools can now develop fascinating math and science activities to discover how the weather affects building energy usage.

The Boulder Valley Schools' energy saving program has paid off impressively. A projected savings of $750,000 for 1994 came in at over $1 million; and 1995 savings exceeded this amount. And the district continues to implement additional energy cost savings measures. It is installing occupancy sensors for lighting, adding more school buildings to the district's Ethernet network in lieu of modems, and is considering ice storage for cooling at some buildings. We can only imagine what Boulder Valley's future energy cost savings will be!

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PROJECT AT A GLANCE:

Project Type:
HVAC

Project Name:
Boulder Valley Schools

Location:
Boulder Valley, Colorado

Market Segment:
Education

Number Of Buildings:
51

Total Square Miles:
District spans across 500 square miles total

***Infinity* Equipment Installed:**
51 – CX 9200 network controllers
3 – SX 8000 workstations
259 – SCX 920s
137 – LCX 810s
274 – TCX 850s
51 – DCX 250s

Network:
Fiber Optic WAN with TCP/IP protocol over leased T1 lines

Applications:
Temperature and humidity control
Lighting control
Rooftop weather station monitoring with Internet access

Total System Points:
5,500

Andover Controls Representative:
Westover Controls