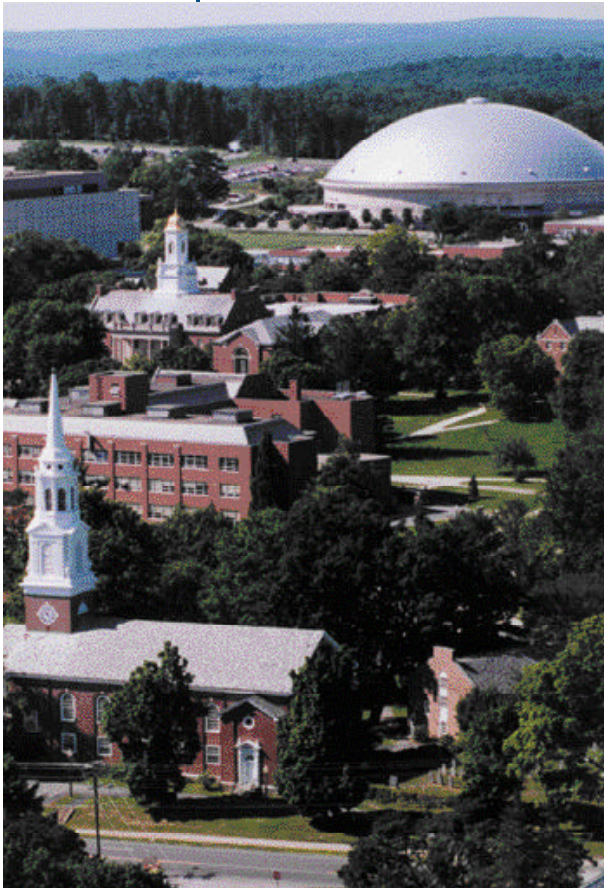


Project Profile

Andover Technology Scores On and Off the Court at UCONN



While the fate of an NCAA basketball championship is being decided on the hardwood floor in UCONN's Gampel Pavilion, one level below the court, *there is no contest*—an Andover Controls Building Automation System (BAS) is winning the game at keeping the crowds cool while the game above heats up!

Indeed, Andover technology is scoring both on and off the basketball court at the University of Connecticut! UCONN has chosen Andover Controls to provide centralized HVAC control for 53 of its academic and utility buildings, residential halls, and sports facilities on its main Storrs campus, as well as several satellite locations in Connecticut.

UCONN 2000

Founded in 1881, UCONN Storrs' campus currently enrolls 15,000 students, with 18,000 expected by 2003. To meet this growing demand on campus infrastructure, Connecticut's State Legislature enacted the UCONN 2000 Program in 1993. The \$1 billion, 10-year program was established to fund new construction, renovations, and additions to existing facilities, on the Storrs campus and its satellites. Specifically, this funding will help UCONN's Architectural and Engineering Services (AES) Department expand the existing Andover Controls Building Automation System to new buildings and upgrade those already in place. Supplemental funds are also provided through financial incentives from the local utility, Connecticut Light & Power.

Andover's Roots on Campus

The Storrs campus had chosen Andover Controls in the mid-1990s after an extensive search for a new BAS to replace multiple older systems, which, at the time, were proving more and more difficult to service and to provide training for. An Andover Controls BAS was chosen over five competing systems for several reasons, according to Al Lewandowski, UCONN's Energy Manager. "The Andover system was compatible with the existing Ethernet network on campus, provided a multi-tasking environment, a powerful graphical user interface, and a *single* programming language, *Plain English*®."

Phase I involved the change-out of the existing controls in 11 buildings, including the Library, two Engineering buildings, Biology/Behavioral Sciences, the Math/Science building, and the Student Union.

New Chemistry Building—Critical Airflow and HVAC Control

The first Andover project funded under Phase II (the UCONN 2000 program) was the New Chemistry Building. The building's controls were designed and installed by Andover's *Boston Systems Integration Services Group*.



The Andover system is perfect for this exceptionally critical environment.

▲▼ Chemistry Building



This new 200,000 square foot five-story building is the first of several buildings in UCONN's new "Technology Quad" envisioned to centralize the science and engineering programs on campus. The building was designed with state-of-the-art ventilation features in both the teaching and research areas. Because of the environmentally sensitive use of chemicals in this facility, the regulation of airflow and HVAC system control is critical. According to Brian Ouellette, an Andover Project Engineer for the *Boston Systems Group*, "The Andover control system is perfect for this exceptionally critical environment. All lab parameters are monitored precisely, including hood sash positions and process chilled water usage. If lab occupants leave their hoods open or dump process chilled water down the drain, UCONN's Facilities' personnel will know and take action—the system is always one step ahead."

The building was also designed to be energy efficient. A glycol preheat/pre-cool loop used for heat recovery in winter and pre-cooling in summer, advanced fume hood control, daylight dimming systems, and energy efficient lighting are just some of the many energy savings features controlled and/or monitored by the Andover system.

A total of 3456 input/output points were installed for HVAC control, lighting control, and laboratory control and monitoring. In addition, an Andover Controls XDriver software interface provides communication between the Andover system and the building's fire alarm system.

A four-story Atrium in the building utilizes Andover's smoke management capabilities. This part of the system, certified to UL 864, UUKL smoke control standards, controls several large supply fans that deliver 128,000 CFM, and exhaust fans that remove 150,000 CFM from the Atrium area.

South Campus Dorm Complex— "Press '1' for Room Occupancy, Press '2' for Room Setpoint"

Installation of an Andover system in the South Campus Dorms followed on the heels of the New Chemistry Building. This installation and all others that followed at UCONN were done by Andover Representative, *YESCo Mira Systems* of Farmington, Connecticut. *YESCo* established a field office on the UCONN campus to better service the needs of the University.

Three dorms and a market-place style Dining Commons make up this popular dorm complex. It features private bathrooms and suite-style living spaces, ample common space, air conditioning, and more. The Andover *Infinity* system controls the entire complex.

Most unique about this residential space is that students can control the living environment in their own rooms! The Andover system in the South Campus dorms communicates with a BackTalk™ touch-tone telephone computer interface. George McFee, Project Manager for *YESCo Mira*, explains: "Students simply dial into the system from their room phone, enter their room number and pin number, and then follow simple menu commands. They can raise or lower their room setpoint within a predefined range established by the Residential Life staff or take their room out of 'Setback Mode' (turn on the fan)."

The Rome Hall Ballroom, also part of the South Campus complex, is also under Andover control. Here an *Infinity* DCX 250 touch-screen display allows the Events Staff to adjust the HVAC for six different zones.

Students can control their individual room temps via a telephone interface to the Andover system.

▼ South Campus Dorm



Central Utility Plants

The heart of UCONN's HVAC, its two campus utility plants with the chillers, boilers, VFDs, ozone generators, meters, pumps, and condensers that make it all happen, reside on the campus Ethernet backbone and are controlled by the Andover system.

The chiller system on campus is a hybrid one—it runs on both gas and electric. Depending on the cost of energy at the time, plant operators switch back and forth between the two. This changeover is done using the Andover graphical interface in the Central Operations office. Because both the gas and electric utilities provide rebates for energy savings, the Operations Staff is very adept at load shedding. According to Les Trout, a UCONN Energy Management Technician, "When notified by the Utility, we can shed 2.5 megawatts of energy with a single click of button within an Andover workstation graphic—right here in the Central Ops Office!"

Water Supply System

The Andover system also monitors and controls the wells and water storage tanks which supply the water for the entire campus and surrounding neighborhood. Under the old manually controlled system, the University experienced numerous problems, not only with overflowing water tanks, but also with drawing down the nearby river too low. Now that UCONN's well water system is automated by the Andover system, the tanks no longer overflow and flood the parking lot; and the Central Operations Office can quickly produce the required reports for the State, as well as take a more proactive approach to water savings with peak shaving and well and tank storage optimization programs.

Hockey Rink

The completely enclosed, state-of-the-art UCONN Ice Arena is a year-round facility with a regulation 200x85-foot ice rink and seating for 2,000 spectators. The Andover system monitors the ice temperature and controls the HVAC in the facility. The Andover system also interfaces to a DesChamp Dehumidification System to eliminate fog-building condensation, and a custom lighting control system. The choice of three different light settings—a maintenance level, a practice level, and a full television level—display on the Andover front-end workstation at the Central Operations Office.

Gampel Pavilion—Home of the Huskies

The spacious Harry A. Gampel Pavilion, a state-of-the-art domed facility, serves all the needs of the UCONN Huskies™ Championship basketball teams. The 171,000 square foot facility seats 10,000 fans, making it the largest capacity on-campus basketball arena in the Northeast.

"No doubt, air quality is very important when hosting a crowd of this size," notes YESCO's McFee. "A *Continuum*™ system, Andover's newest product family, works behind the scenes to keep the fans comfortable and safe." Along with standard HVAC control, CO2 sensors throughout the arena monitor potential build-up and *Continuum* reacts before there's even a hint of a problem.

Gampel's "Practice" and "Events" schedules are entered into the *Continuum* CyberStation™ front-end workstation in the Central Operations Office, ensuring the proper room conditions at all times. For example, one hour before game time, the Operations staff clicks on the "Events" button on the *Continuum* CyberStation screen. The space temperature in Gampel automatically drops 2.5° and the supply air fans turn on in anticipation of the large mass of people that are about to enter the Pavilion.

And the *flexibility* of the *Continuum* system is just what the coaches ordered! According to UCONN's Les Trout, "Different coaches like different temperatures." The ability now to custom-control the temperature has scored points with UCONN basketball!

South Campus Chiller Plant ▼



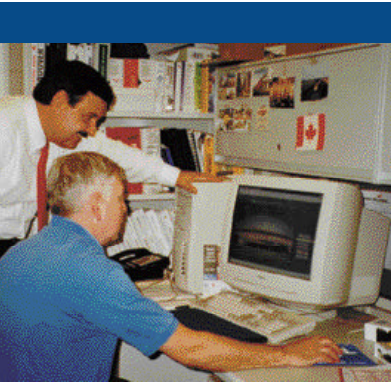
Gampel Pavilion ▲▼



George McFee inspects the *Continuum* hardware one level below the Gampel basketball court.

Continuum Graphics—An Excellent Troubleshooting Tool

UCONN's Lewandowski praises the CyberStation *Pinpoint*™ graphics that YESCO/Mira designed for them. "The graphics are so simple to use! Everything is 'button-controlled'—we click on buttons to move around anywhere in the system. No matter what your level of knowledge on the system is, you can use it!"



UCONN Energy Manager, AI Lewandowski and Technician Les Trout troubleshoot a temperature problem quickly via Continuum CyberStation.™

The *Pinpoint* graphics are also proving to be an excellent tool for evaluating problems and troubleshooting them quickly. "When a trouble call comes in to the Central Ops Office," explains Lewandowski, "we can open a damper or tweak a valve and repair the problem from here quickly without even leaving our seats. There's no down time. Before the public knows there's a problem—we've solved it!"

Lewandowski also likes the freedom this system brings him. "With Andover, there's an 'open door policy' on the software and hardware. We're not dependent on Andover Controls Corporate or YESCO Mira to use or maintain the system. In the past, other vendors didn't give us full programmability. That's not the case here. We can go right in and make a change or add a point. YESCO gives us the drawings, the points list, etc.—we can track everything ourselves."

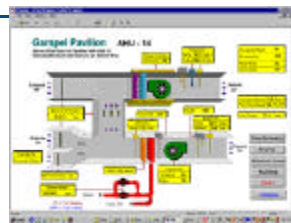
Lewandowski says his ultimate goal is to eventually have all major campus buildings and the water system on the Andover system. "By doing so," he says, "we'll continue to lower our energy consumption, reduce operating costs, and simplify system maintenance while providing better working conditions and air quality for UCONN's students and faculty."



Campus Map Graphic



Gampel Main Menu Screen



AHU Screen Graphic

PROJECT AT A GLANCE:

Project Type:

HVAC/Energy Management & Lighting Control

Project Name:

University of Connecticut

Location:

Storrs, CT

Market Segment:

Education

Number of Buildings:

53

Total Square Feet:

8 million (743,200 m²)

Andover Controls Equipment Installed:

29 – *Infinity CX* 9200 Network controllers

24 – *Continuum* NetControllers

16 – *Infinity SX* 8000 and

Continuum CyberStation front-end workstations

1600 – *Infinity* Inifinet controllers

180 – *Continuum* I/O modules

Network:

Fiber Optic Ethernet LAN

System Runs on Existing Network:

Yes

Applications:

Temperature and humidity control

Well water monitoring and control

Lighting control

Laboratory control and monitoring

CO2 monitoring and control

Smoke control

Chiller optimization

Third-party equipment and/or drivers:)

Simplex fire alarm system

Carrier and Tecogen chillers

Square D power monitoring

Argus Greenhouse controls

ABB variable frequency drives

Controlotron flow meters

GE motor control

Phoenix fume hood controls

DesChamp dehumidification system

BackTalk touch-tone telephone interface

Total System Points:

15,000+

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