Alice Campbell Alumni Center #94

Building Gross Sq.Ft.: 68,600

Simple Payback: 2.7 YRS

Retrocommissioned: Feb—Mar 2012

Annual Energy Avoidance: 39%

(Based on one year's non-normalized data)

Principal Building Use: Offices and Events

Facility Contacts: Jim Runyan

Building & Occupant Overview

The Alice Campbell Alumni Center provides a space for one to host a variety of events ranging from conferences to wedding receptions on the University of Illinois campus. The building holds conference rooms, offices, a boardroom, large gallery space and even a ballroom. The building hours are from 8:30 A.M to 5:00 P.M Monday through Friday and closed on weekends. The building was built in 2006 and has four variable air volume (VAV) air handlers for conditioning of the spaces. Building heat is provided by two hydronic system, one that serves the preheat coils and the perimeter and the other provides hot water to VAV reheats. The building controls consist of a series of Siemens MECs with expansion modules.

The facility's total metered energy during previous year was 8,330 MMBTU.

Post RCx Energy Use Intensity (EUI) & Cost Index (ECI)

E.U.I.	E.C.I. #1	E.C.I. #2*
73.5 kBTU / Sq.Ft.	$2.18 / Sq.Ft.	$130.19 / person

**~1150 PEOPLE OCCUPY BUILDING ON A GIVEN DAY*

Retrocommissioning Specifics & Results

The air handling units (AHUs) providing air conditioning were maintaining space conditions in offices and classrooms 24/7/365. The primary energy conservation method was scheduling AHU 3 and 4 off during non occupied hours and AHU 1 and 2 with static discharge setbacks.

Occupancy sensors were installed in numerous rooms to control lighting and HVAC within the building. A payback analysis was performed and the results were less than a 2.5 year payback in utility savings.

Discharge air temperature sensors were installed after the VAV reheats to achieve better control and comfort conditions. There was also humidity sensors installed in the return air on all four AHU's and CO2 sensors installed in AHU's 1 and 2 return duct. These can be utilized in the sequence of operation to achieve to achieve better operating and comfort conditions.

To maintain comfort conditions, all thermostats were calibrated and the heating valves were inspected for proper operation. There are approximately 76 VAV's in the building.

It was found that the hot water radiation valves were operating backwards so the valves were closing when they should have been opening. All the valves were inspected and changed for proper operation.

Project Highlights

- There were additional sensors installed in the AHU units and at the VAV. This provided improved sequences of operation, scheduling, and comfort control.
- A couple of the AHU's were scheduled off and set backs on the other two for un-occupied conditions. The building exhaust fans were also scheduled shut off during un-occupied times.
- Occupancy sensors were installed to control the lighting and HVAC when the spaces were un-occupied.
- Perimeter radiation valves were operating opposite of what they should have been so they were corrected and then verified.

November 1, 2012

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