Facilities & Services
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

retrocommissioning project five

ACES Library, Information and Alumni Center

Quick Facts…

Total Building Square Feet:	82,742
Expected Utility Savings per Year:	$75,000
RCx Spent to Retrocommission:	$60,000
Estimated Payback:	9 months
RCx Team in Building:	May to June 2008

Green House Emissions Reduction:
The 19.3 Tons of CO2 saved is equivalent to the emissions from 1,059 gallons of gasoline!
*based on http://www.epa.gov/cleanenergy/energy-resources/calculator.html)

Background

ACES Library is a fairly new building with programmable controls available.

How savings were achieved:

- Reviewed and tweaked programmable controls to provide energy savings during all hours of operation
- Replaced the humidity sensor serving the air handling units, allowing “free” cooling to work properly
- Reviewed fan control strategy, resulting in slowing the return fans
- Calibrated and inspected each variable air volume box for accuracy, which restored building pressurization
- Replaced DDC controller on an air handling unit after noting it was defective
- Included restroom exhaust fans under programmable controls

Current Calculated Energy Savings*:

Electrical energy saved: **5%**

Chilled water energy saved: **33%**

Steam energy saved: **0%**

* based on comparison of monthly utility data from June 2007 to June 2008.

Project Highlights

▶	Programmed occupancy schedules to reduce fan systems at night & close outdoor air dampers
▶	Leak in pneumatic tubing was found, corrected and the fan speed reduced to maintain pressure
▶	Restroom exhaust fans (14,000 CFM) are shut off at night
▶	Variable volume boxes were commissioned, reducing minimum air quantities
▶	Abandoned use of domestic water booster pump
▶	Expected savings estimated to exceed $75,000 per year.
▶	Many maintenance items were addressed: bad humidity sensor, programs checked and improved, condensate meter wired, etc…