Coordinated Science Laboratory, #148

Building Gross Sq.Ft.: 124,007

Retrocommissioned: Jan—May 2010

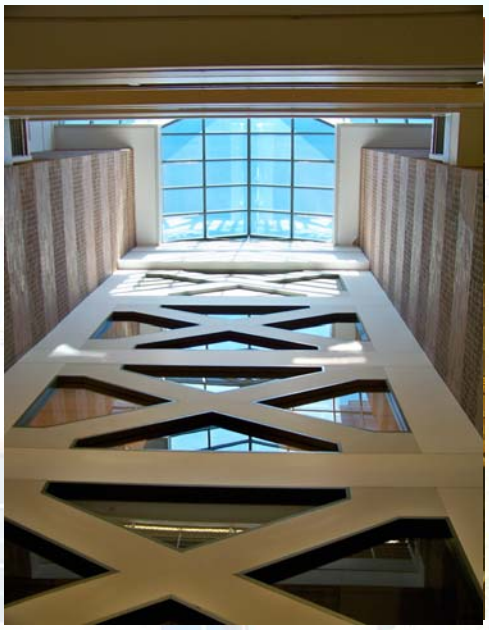
Simple Payback: 1.3 YRS

Annual Energy Avoidance: 35%

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

Principal Building Use: Offices and Computer Labs

Facility Contacts: Elizabeth Dennison, Dan Jordan & Michael Chan



Building & Occupant Overview

Coordinated Science Lab was built in 1992. The folks inhabiting the building are a mix of tenured professors, researchers and students researching the possibilities of lasers, robotics and facial recognition.

The main utilities serving the facility are campus chilled water, campus district steam and campus electricity which is a mixture of purchased and campus generated. The controls platform is the Barber Coleman Network 8000 with GCMs. The HVAC system is composed of two large air handling units in the basement feeding out to 277 fan-powered VAV boxes with reheat coils controlled by pneumatic thermostats with day/night capability.

The facility's total metered energy during the previous year was 53,474 MMBTU.

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

E.U.I.	E.C.I. #1	E.C.I. #2
278.4 kBTU / Sq.Ft.	$4.44 / Sq.Ft.	$1,115.99 / person

** ~ 493 PEOPLE OCCUPY BUILDING AT ONE TIME.*

Retrocommissioning Specifics & Results

Upon arriving at the building, many complaints about indoor air quality and cooling problems were communicated. Many occupants also noted that their thermostat did not control, or did not know where their thermostat was or who they shared with. Due to balancing problems, many occupants had placed varying objects in the grilles to reduce air flow in their space.

RCx visited each of the 277 VAVs and re-balanced each space for improved airflow while removing the accumulated "air blockers". The fan-powered VAVs were also re-balanced to deliver all conditioned air to the space and allow for return air from the plenum for tempering as required. IAQ issues were resolved due to these time intensive efforts.

Air being delivered to Liebert controlled spaces was removed with the goal of improving humidity conditions, reducing needless reheating, and eliminate any "fighting" between the units. A couple of special larger projects were recommended to improve energy avoidance in these spaces.

Project Highlights

- Fan-powered VAV boxes were set up originally to have 20% extra air delivered to them per engineer's drawings. This extra air exited the return *inlet* into the plenum rather than the space, wasting conditioned air and leading to space cooling complaints.
- The building occupants agreed to scheduling the main AHUs to shut down during predominately unoccupied areas, rather than 24/7.
- Day/night stats were activated anew allowing for night setbacks with pneumatic controls, still allowing heating during the cold season without running the larger AHUs.

November 9, 2012