

# Wohlers Hall #159



**Building Gross Sq.Ft.:** 99,550

**Simple Payback:** 1.4 YRS

**Retrocommissioned:** May-Aug 2009

**Annual Utility Avoidance:** 45%

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

**Principal Building Use:** Offices and Lecture Halls

**Facility Contact:** Susan Elliot and George Freeman

## Building & Occupant Overview

Wohlers Hall contains several administrative offices within the college of Business as well as several lecture halls. The building is occupied by predominantly administrators, as well as a large student base, whose schedules vary from one another. Many of the occupants were receptive to the idea of Retrocommissioning and cutting utility costs in the building. The building was originally built in 1962 but all of the air handling units were replaced in 1999. There are nine (9) air handling units, all of which are constant volume.

The facility's total metered energy during the previous year was 36,440 MMBTU.



<http://www.business.illinois.edu/finance/faculty.aspx>

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

E.U.I.	E.C.I. #1	E.C.I. #2*
202.6 kBtu / Sq.Ft.	\$3.20 / Sq.Ft.	N/A

\* QUANTITY OF PEOPLE THAT OCCUPY THE BUILDING ON A GIVEN DAY IS NOT KNOWN.

## Retrocommissioning Specifics & Results

The air handling units (AHUs) providing air conditioning were maintaining space conditions 24/7/365. The primary energy conservation method was scheduling the AHUs serving the office areas to shut down for 10 to 12 hours a day and some on the weekends. This was possible due to the perimeter radiation throughout the building.

Many occupants had thermal comfort complaints, many of which were the direct result of leaking reheat and/or radiation valves. The RCx team noted these complaints, identified numerous (approximately 100+) bad valves and replaced these valves. This saved a significant amount of steam and chilled water, due to the unnecessary cooling cost associated with the reheat coils. Therefore, air quantities were able to be reduced, again pushing our savings higher.

To help control the heating issues further, VFD's were added to the existing heating water pumps controlling the radiation system. This allowed flow to be reduced based on use rather than relying on only outdoor temperature.

## Project Highlights

- Occupancy schedules were put in place to save energy during unoccupied hours.
- A heating water reheat valve replacement project was recommended and executed.
- Variable frequency drives were added to the heating water pumps in the building.
- Replaced control system which allowed for new web-based graphical interface and allowed exhaust fans to be turned off in the building.
- A large number of maintenance issues were addressed to improve system performance

## Facilities & Services