

GREGORY HALL #0043

Building Gross Sq.Ft.: 110,043

Campus Energy Rank FY12: 54

Retrocommissioned: May 2013—Aug 2013

Principal Building Use: Comp. Labs, Offices, and Classrooms

Facility Contacts: Tina Candler



Building & Occupant Overview

Gregory Hall is a building dedicated to multiple colleges including the college of media, history, philosophy, and library sciences. The building opened in 1940 and has undergone several remodels and revisions over the years. There are seven significant air handling units serving the various spaces, including two dedicated auditorium fans, one serving room 100 the other serving 112. Building heat is provided by both hot water fin tube radiation, steam radiation as well as hot water reheat coils placed in VAV boxes and cabinet unit heaters. The building control system is solely Siemens controls except the remaining pneumatic controls on AHU7 (which are planned to be replaced soon with Siemens DDC controls). The facility's total metered energy during FY12 was 15,488 MMBTU.

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

E.U.I.	E.C.I. #1	E.C.I. #2*
141 kBtu / Sq.Ft.	\$ — /Sq.Ft.	\$ — / person

*~ 750 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 labs 24/7/365. The primary energy conservation method was scheduling setbacks and reducing CFM during non occupied times via occupancy sensors.

The first issue recognized by the team was the extreme variation in pressure of the building. There was one of four chimneys in the attic open to the outside allowing unnecessary exhaust through the attic. This issue was magnified by open chases between the basement and attic with open exhaust ducts in these areas allowing return air a very easy path to the outside.

Occupancy sensors were connected to the VAV boxes in classrooms, larger offices and conference rooms to maximize savings, while the remaining sensors only control the lighting as per original design. This will reduce the CFM output of the AHUs when spaces go into unoccupied mode during a normal occupied time.

There are ~150 VAV boxes in the building. Each box and thermostat was inspected for proper operation and calibrated. Discharge temperature sensors were also checked during this process. There were offsets put in for many of these CFM readings to read the actual airflow through the box, allowing AHU3 to meet static set point for the first time since installation in 2009.



Project Highlights

- Existing occupancy sensors controlling lighting were connected to the VAV boxes to reduce air flow when the spaces were un-occupied.
- Occupancy Sensors installed to maximize savings in two auditoriums
- There were setback schedules implemented in the office areas during 7PM-7AM M-F, and 5PM-8AM Sat. Sun.
- Heat Load calc's performed to reduce the constant volume CFM to auditoriums
- Programming improvements on all 7 air handling units
- Building envelope Project scoped to stop unnecessary exhausting of conditioned air to attic spaces