

TEMPLE BUELL HALL #0339

Building Gross Sq.Ft.: 94,194

Campus Energy Rank FY12: 54

Retrocommissioned: Aug 2013—Nov 2013

Principal Building Use: Offices, Studios and Classrooms

Facility Contacts: Spring Harrison



Building & Occupant Overview

Temple Buell Hall is a building mainly dedicated to architecture colleges. The building opened in 1993 and has undergone one remodel that tried to fix ventilation and noise issues from original design issues. There are four significant air handling units serving the various spaces, including one dedicated auditorium fan, serving room 114. Building heat is provided by steam radiation as well as hot water reheat coils placed in VAV boxes and cabinet unit heaters. The building control system is solely Alpha (Schneider) controls except the remaining pneumatic controls on the room level (controlling reheat/VAV damper/radiation). The facility's total metered energy during the FY13 baseline was 13,771 MMBTU.



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

E.U.I.	E.C.I. #1	E.C.I. #2*
146 kBtu / Sq.Ft.	\$ 2.50 /Sq.Ft.	\$ 346.12 / person

*~ 680 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 studios based on an agreed upon schedule, but were only setting the fans to a min, not shutting them off. The primary energy conservation method was scheduling tighter setbacks and reducing CFM during non occupied times via occupancy sensors (still being designed as of Jan 2014).

The first issue recognized by the team was the excess ventilation in the stairwells. There was one thermostat controlling a makeup fan and outside air damper on a call for cooling, as well as controlling a unit heater on a call for heat. These fans would turn on during most summer days and not shut off for days due to a bad design. We took these fans out of operation and added magnetic door holders to help naturally ventilate these stairwells, leaving the unit heaters operational.

All temperature transmitters and sensors on all four air handling units were calibrated. The pilot positioners were adjusted and offsets put in to keep from pulling in mechanical room air through the relief dampers during all modes of operation.

There are ~100 VAV boxes in the building. Each box and thermostat was inspected for proper operation and calibrated. Several rooms were being over-ventilated so the CFM numbers were reduced per heat load calculations.

Project Highlights

- Shut down stairwell fans from delivering hot air to space in summer mode
- Occupancy Sensors to be installed to control lighting and HVAC in studios, lighting everywhere
- Reset Min OA dampers to properly ventilate building
- There were setback schedules implemented in the office areas during 11PM-6AM M-F, and 7PM-7AM Sat. Sun.
- Heat Load calc's performed to reduce the CFM to studios and offices
- Programming improvements on all 4 air handling units
- Repaired smoke dampers to reduce amount of building air