

DAVID KINLEY HALL #0054

Building Gross Sq.Ft.: 80,589

Campus Energy Rank FY13: 70

Retrocommissioned: Nov 2013—Feb 2014



Principal Building Use: Offices, Auditorium, and Classrooms

Building & Occupant Overview

David Kinley Hall is a building mainly dedicated to the college of economics. The building opened in 1924 and has undergone numerous remodels that attempted to condition adequate air to the entire building, followed by energy conservation remodels, the most recent of which occurred in 2011. There are six significant air handling units serving the various spaces, including one dedicated auditorium fan, serving room 114. Building heat is provided mainly by hot water radiation via 4 main heat exchangers and some steam radiation. The building control system is solely Siemens 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 16,533 MMBTU.



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

E.U.I.	E.C.I. #1	E.C.I. #2*
205 kBtu / Sq.Ft.	\$ 3.15 /Sq.Ft.	\$ 254 / person

*~ 1,000 PEOPLE OCCUPY BUILDING ON A GIVEN DAY

Retrocommissioning Specifics & Results

The air handling units (AHUs) providing air conditioning to the basement and auditorium were maintaining space conditions 24/7/365. With the addition of DDC controls, schedules will be implemented to shut units off and set back airflows during low and no occupancy times. The primary energy conservation method on the units serving the first through fourth floors was scheduling tighter setbacks and reducing CFM during non occupied times via occupancy sensors.

All temperature transmitters and sensors on all six air handling units were calibrated. The energy recovery wheels were investigated and programming was modified to increase their effectiveness. The airflow monitoring stations were verified and calibrated as needed to ensure proper building ventilation. Metal diverting plates that had broke loose and adhered airflow were removed, therefore fixing the vibration noise issues and helping airflow to those affected spaces served by AHU2.

There are 77 VAV boxes in the building. Each box was inspected for proper operation and calibrated. Also, to assist with maintenance in the future, all VAVs were labeled in the attic with their names in programming and which room(s) the box supplies, while labels were also put in the attic to indicate locations of remote VAV boxes.

Project Highlights

- Occupancy Sensors installed to control HVAC in classrooms and conference rooms
- Reset Min OA dampers to properly ventilate building
- There were setback schedules implemented in the office areas during agreed upon times
- Programming improvements on all 6 air handling units
- Pressure control installed on the auditorium to help overall building pressure stay positive
- Room CO2 sensors were reading low and sent to the manufacturer for a possible solution
- Unit level return air CO2 sensors were added to all 3 AHUs in the attic