Krannert Art Museum, #220

Building Gross Sq.Ft.: 62,440

Retrocommissioning Team Visit Period: Feb—Apr, 2013

Principal Building Use: Art Galleries, Offices, Auditorium

Facility Contacts: Claudia Corlett-Stahl & Christine Saniat

Expected Simple Payback: TBD

Expected Annual Utility Avoidance: 15% **OR** ▼ 521.6 MMBTU

Campus Energy Rank FY10: 63

Building & Occupant Overview

The Krannert Art Museum was first designed in 1958 with the Art & Design Facility. In 1968, an addition was constructed to the east end. In 1986 another addition, the Kinkead Pavilion, was designed and completed in 1988, making Krannert Art Museum the second largest art museum in Illinois. It now houses a permanent collection of 9,000 works of art, ranging from ancient Egyptian art to contemporary photographs, in ten galleries. Also, there are 12-15 changing exhibitions each year, bringing works from other museums and collections, both nationally and internationally. Over 132,000 visitors come to the Museum each year.

There are five CV air handling units, one VAV air handling unit, and two direct outside air units in the building. Building heat is provided by campus steam to hot water preheats and reheats. Cooling is provided by the campus chilled water system.

The facility's total metered energy during FY10 was 3,477 MMBTU, with the steam metered through the adjacent Art & Design Building.

Retrocommissioning Specifics & Results

The air handling units (AHUs) providing air conditioning were maintaining space conditions in the space 24/7/365. The primary energy conservation method was scheduling setbacks and reducing CFM during non occupied times.

The constant volume systems were modified to be VAV systems. The airflow modulates up and down to maintain space temperature and humidity setpoints. A building exhaust fan was shut down during unoccupied hours.

Even with the completion of the new project, we found several things that needed attention. The humidifiers had broken floats, one of the dew points sensors needed to be repaired, loose wiring connections were found causing control valves to act erratically. Ductwork revisions were completed by the contractor. We helped coordinate the division of responsibility document going forward.

Air handler ASU-3 had significant work performed with it. We retired the remaining MACS in the building and installed new VFD's on this unit as well as new DDC controls. Drain pan problems were corrected as well as a leaky humidifier. The heat exchanger and pumps in this room needed attention also.

Project Highlights

- The user was given access to the Siemens web based graphics. They can now see how their mechanical systems are performing.
- We automated the temperature control programming so that the auditorium space will condition automatically when occupied by sensing the space temperature and CO2 levels.
- Converted the system from constant volume to a variable air volume system.
- Modified the sequence of operation to create different humidity levels setpoints in the summer and winter.

July 16, 2013