

Foellinger Auditorium #7



Building Gross Sq.Ft.: 51,765

Simple Payback: 8.9 YRS

Retrocommissioned: Oct—Nov 2010

Annual Energy Avoidance: 8%

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

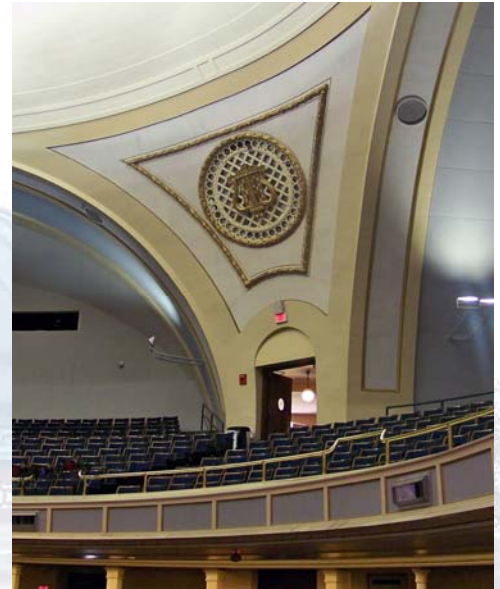
Principal Building Use: Lecture and Performance Hall

Facility Contact: Phil Strang

Building & Occupant Overview

Foellinger Auditorium is the campus' largest lecture hall, and it serves as a center for both classroom and performance. The auditorium has been host to talks and performances by students, staff, faculty, public figures, orators, educators, and scientists. There are four air handler units in the building, of which, one is a VAV system and the other three are constant volume. Building heat is provided by campus steam to a radiation system that is separated into five zones. Cooling is provided by campus chilled water. The building controls consist of Siemens compacts for the AHU's and a single MEC for building chilled water entrance.

The facility's total metered energy during the previous year was 7,085 MMBTU.



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

E.U.I.	E.C.I. #1	E.C.I. #2*
126.5 kBTU / Sq.Ft.	\$2.16 / Sq.Ft.	\$149.29 / person

* - 750 PEOPLE OCCUPY BUILDING AT ONE TIME.

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 during after hours to a minimum setting. Web graphics were provided to the facility manager for HVAC system analysis from his desktop. Associated exhaust fans in the building were shut down during unoccupied hours.

To maintain comfort conditions, all thermostats were calibrated and / or replaced and the VAV's were inspected for proper operation. There are ten VAV's in the building and all their controllers needed replaced. It was found that a 14" VAV branch duct came loose and was blowing freely above the ceiling. The ten VAV boxes were calibrated and balanced which allow for the reduction of air to the spaces, resulting in fan energy savings without compromising comfort.

Inlet vanes and flow monitoring stations were removed from the supply and return duct of AHU1 which they were creating an excessive pressure drop.

Project Highlights

- Economizer sequences were restored on the AHUs, improving winter cooling needs
- Set back schedules were created on AHU's for un-occupied conditions.
- DDC controls were installed on four AHUs for improved sequences of operation, scheduling, and comfort control
- AHU 1 was a VAV system where six of the ten VAV's were inoperable.
- The building steam radiation system was brought together under one automated control point to allow ease of shutoff when conditions merit.