

Davenport Hall #0001



Building Gross Sq.Ft.: 110,943 sq.ft.

Retrocommissioning Team May 2016—Aug 2016

Visit Period:

Principal Building Use: Laboratories, Offices, and Classrooms

Building & Occupant Overview

Constructed in 1901, Davenport Hall is one of the oldest academic buildings on campus. The original building only had the west side of the building and remaining were added to it later. It is home to the departments of geography and anthropology. The east side of the building is research intensive with several fume hoods mostly with individual exhaust fans. The west side and south east side of the building has a lot classrooms and office spaces. There are 20 air handling units with several DX units and window air conditioners serving the building. There are several steam isolation valves for the radiator systems (approximately 10-12) that are hand valve and is recommended to be automated with control valves that control steam flow based on outside air conditions. The building recently went through envelope upgrade with new roof and windows.

Retro-commissioning Specifics & Results

Most air handling units were connected to the campus chilled water. There were two chillers in the building serving few air handling units (AHUs 1, 2, 20). They were retired and all air handling units are now connected to the campus chilled water loop. New DDC controls were added to the air handling units to control fan, dampers and valves. New VFD were installed for AHU5. Air balance was performed on spaces and air flows were reduced wherever possible. The air handling units were running 24/7 previously and occupancy schedules were implemented to shut off the non-lab units when the building is unoccupied. Occupancy sensors were installed for classrooms served by AHU13 to control lights and shut off AHU when all spaces are unoccupied. AHU12 was scheduled off permanently and an override switch was installed in the suite so that the air handling unit can be turned on when required to provide cooling.



Project Highlights

- Campus chilled water connection and Controls upgrade project for air handling units
- Implemented occupancy schedules for all air handling units
- Performed air balance for AHU5, AHU13 and AHU20 at both the VAV and air handling unit level and reduced air flows wherever possible.
- New VFD for AHU5 supply fan
- Installed occupancy sensors for spaces served by AHU13 to control lighting and HVAC