

SHOWCASE PROJECT: THE UNIVERSITY OF PITTSBURGH MEDICAL CENTER: MAGEE-WOMENS RESEARCH INSTITUTE

SOLUTION OVERVIEW

Magee-Women's Research Institute (MWRI) is a headquarters for University of Pittsburgh medical research scientists who are engaged in health research that spans diverse aspects of women's health including reproductive biology and development. The building was first occupied by MWRI in 1994 with a 2007 addition increasing total floor space to 125,000 square feet.

The Magee-Women's Research Institute (MWRI) is a seven-story research building with a basement, sub-basement, and underground parking garage. The facility meets heating, cooling, ventilation, and process energy needs with a central steam plant, a central chiller plant, and air handling systems located throughout the facility. The building is comprised primarily of research laboratories, vivarium spaces, and offices.

SECTOR TYPE

Commercial

LOCATION

Pittsburgh, Pennsylvania

PROJECT SIZE

125,000 Square Feet

FINANCIAL OVERVIEW

\$759,000

SOLUTIONS

The University of Pittsburgh Medical Center leveraged its comprehensive in-house energy program and local utility provider to identify significant energy saving opportunities. These included self-identified lighting retrofit projects and several energy-saving opportunities for the existing mechanical systems identified through a utility-sponsored retrocommissioning program.

The following energy-saving projects were implemented:

- Upgraded office lighting from T-12 to T-8 and parking garage lighting from HID to LED
- Optimized air handling unit operation:
 - Implemented or optimized air handling unit operating schedules

- Implemented air handling unit supply fan static pressure reset strategy
- Implemented air handling unit discharge air temperature reset strategy
- Implemented zone VAV (Variable Air Volume) box night setback control
- Added variable frequency drives (VFDs) to air handling unit supply and exhaust fans, air handling unit reheat coil pumps, and perimeter heat pumps

OTHER BENEFITS

Having demonstrated that the energy efficiency measures were successful, UPMC is now launching this model for energy reduction across its portfolio of healthcare facilities. Lighting upgrades and retro-commissioning projects have already been expanded to other UPMC facilities. In addition, comprehensive boiler plant assessments have been completed at a majority of facilities. Upgrades to these boiler systems planned for 2015 will further reduce energy consumption.

Additional unmeasured benefits include stimulating staff participation on all levels, enhancing operator ownership of the energy reduction process, and removing perceived boundary layers between operating staff and end users resulting in considerable cultural change.

The project was considered sound investment both financially to the bottom line and intellectually to our staff.

Annual Energy Use

Baseline(2011-2012)

494.7 kBtu/sq.ft

Expected(2015)

388.0 kBtu/sq.ft

Actual()

Coming Soon

Energy Savings

22%

Annual Energy Cost

Baseline(2011-2012)

\$774,000

Expected(2015)

\$619,000

Actual()

Coming Soon

Cost Savings

\$155,000



Exterior – view from main entrance



View from corner of Craft Ave and Forbes Ave