

SHOWCASE PROJECT: UNIVERSITY OF VIRGINIA: CAMPBELL HALL

SOLUTION OVERVIEW

In 2011, Campbell Hall completed a significant chiller plant optimization process. Afterwards, various energy efficiency projects were identified for the building thanks to encouragement from the Architecture School. All of the following upgrades are projected to reduce energy consumption 35% and save \$82,000 in annual utility costs, a 17% reduction.

Built in the 1960s, Campbell Hall has been home to UVA's School of Architecture for nearly 50 years. The most recent renovation came in 2008 with an addition designed by the Architecture faculty. This 2008 renovation introduced new classroom space and rooms designed specifically for student review presentations, along with storm water and architectural features that truly reflect the use of the building.

SECTOR TYPE

Education

LOCATION

Charlottesville, Virginia

PROJECT SIZE

140,000 Square Feet

FINANCIAL OVERVIEW

Project Cost \$1.2 Million

SOLUTIONS

The initial chiller plant optimization included a controls and equipment upgrade that will continue to reduce the energy consumption of all of the buildings it serves for years to come. In subsequent Campbell Hall upgrades, working together with the building occupants ameliorated the task of identifying and implementing energy conservation measures (ECMs).

As with any old building, the first defined task was to improve the control system. A controls upgrade, in 2011, converted many of the circa 1969 pneumatic controls to modern and more energy efficient electronic ones. A lighting retrofit accompanied this controls upgrade about a year later, replacing 2,579 – or 81% – of the 3,192 bulbs. This retrofit included the installation of:

- 1,973 fluorescent bulbs
- 554 LED bulbs

- 42 HID bulbs

As a result, peak lighting wattage in the building has been reduced from 131.4 kW to 83.3 kW – a 37% improvement expected to save 244,000 kWh and 139 metric tons of greenhouse gas emissions annually. Expected future work includes enhanced lighting control and further HVAC scheduling and control.

OTHER BENEFITS

With these energy reductions, the University will consider the feasibility of an ENERGY STAR® prerequisite rating for LEED® EBO&M.

Annual Energy Use

(Source EUI)

Baseline(2010)
193 kBtu/sq. ft.

Expected(2015)
125 kBtu/sq. ft.

Actual()
Coming soon

Energy Savings

35%

Annual Energy Cost

Baseline(2010)
\$493,000

Expected(2015)
\$411,000

Actual()
Coming soon

Cost Savings

\$82,000



Campbell Hall addition