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According to the US Department of Energy, literally hundreds of thousands of school buildings from grammar schools to college campuses representing billions of sq. ft. of floor space were built before 1980. Some, arguably, need renovation work. For those in excellent physical condition, finding ways and means to focus on energy conservation, and thereby become "greener" has become an important priority.

When it comes to energy conservation, the University of Maryland, College Park, MD, is leading by example.

What began April, 2009, with approval by the Maryland Board of Public Works, is an extensive 2-year green initiative designed to replace equipment in nine University of Maryland buildings with eco-friendly technology. Upon completion, the total effort including the purchase and installation of efficient electrical, mechanical, and plumbing equipment will save the University millions of dollars in energy costs.

According to Susan Corry, University of Maryland Conservation Manager, "this is a green, smart technology program that will cut energy costs substantially, conserve water, and replace old equipment that's reached the end of its useful life". Any equipment upgraded or/ replaced will pay for itself through efficiency gains that result in energy savings, she said.



Upon completion, the multi-year project is expected to save 22 percent of the energy usage in the buildings guaranteeing energy and operations savings of \$1.7 million a year. That translates into savings of 4,100 tons of carbon dioxide emissions, the equivalent of planting more than 20,000 trees each year, Corry noted.



Under the University contract, Johnson Controls, Inc., one of five firms approved by the State of Maryland to provide energy services, will implement a variety of energy conservation and facility improvements encompassing lighting upgrades, water conservation measures, building automation controls, and installation of highly efficient mechanical equipment and systems.

The beneficiaries of this major upgrade project are among the oldest and the highest energy consuming buildings on the University of Maryland campus. They include, science facilities A.V. Williams, Biology/Psychology, and Computer and Space Science; Cole Student Activities Center, Reckord Armory, Ellicott Dining Hall, and Lee, Mitchell and Main administration buildings.

With the lighting portion of the renovation begun shortly after the April, 2009 Board approval, it is expected that this phase of the program will be substantially completed by the Spring of 2010.

To obtain the opportunity to serve the University of Maryland, The Columbia Lighting division of Hubbell Lighting worked through its Maryland agent, One Source Associates.

Upon learning of the job, One Source contacted University officials seeking permission to demonstrate a new lighting fixture from Columbia Lighting they knew would be equal to or better performing than competitive units and, at the same time, would be more economical. Though vendors had already been selected, One Source was given an opportunity to prove its point.

With only a four-week window available from the time of contract award to when Hunt Consulting, the lighting sub contractor, needed to begin installing lighting fixtures, One Source had two weeks to gain approval and Columbia Lighting had just two-weeks after that to manufacture and ship product.

Initially, Columbia Lighting provided five fixtures for the University test. Following the testing, calculation of results and final evaluations, the fluorescent lighting fixture ultimately recommended by the University of Maryland Electrical Systems Group and Susan Corry was Columbia Lighting's e-poc fixture. A full distribution qualified luminaire, e-poc's ease of maintenance combined with its clean lines, low contrast, high-energy efficiency, and sustainability made it a perfect fit for the evaluation period.

Expanding on the tuned systems approach incorporated into other Columbia Lighting fixtures, e-poc takes advantage of T5 lamp and ballast thermals to gain efficiency and save energy without sacrificing light levels. e-poc achieves efficiencies up to 90.3% for T5 and 87.3% for T8. The T8 configuration uses an exclusive EnergyMax® 1.04 BF tuned ballast to provide the best possible balance between light output and energy savings and meets NEMA Premium Ballast criteria. In the end, the T5 offers an energy savings of 29% and the T8 provides a savings of 21-34% over traditional 3-lamp parabolics.

Upon completion, nearly 12,000 2-lamp 2 x 2 T8 fixtures will have been replaced by 6,600 e-poc 2-lamp energy saving luminaries. As a result of the lighting retrofit phase of the program, the University of Maryland will realize energy savings of 1,391,400 Kwh per year, which translates to an annual bottom line savings of \$153,054.

It is appropriate that the University of Maryland is now competing in America's Greenest Campus Competition, a nationwide contest to reduce the carbon footprints of students, faculty, alumni, and staff. ■

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For further information contact Columbia Lighting, 701 Millennium Boulevard, Greenville, SC 29607, phone 864-678-1000 or visit Columbia's website at [www.columbialighting.com](http://www.columbialighting.com).

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