Lewis and Clark Community College Collaborating with Ameren to House One of the Nation's First Alternative Energy Fuel Cells

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Lewis and Clark Community College – a leader in sustainability efforts – is taking an important step through a collaborative effort with Ameren Corporation to house an alternative energy, state-of-the-art 5 kw PureCell® fuel cell system from ClearEdge Power on its Godfrey Campus.

The fuel cell, expected to be installed in November 2013, will be placed in the Trimpe Building as part of the planned renovations for the building that will take place over the next 18 months. The fuel cell will be the first alternative energy source added to the site that will soon be known as the Alternative Energy Production Center (AEPC) at Lewis and Clark.

This ClearEdge Power fuel cell system runs on a natural gas supply, and through a fuel processor, draws the hydrogen molecules out. Through an electrochemical process that combines the hydrogen molecules with oxygen, this particular fuel cell system will generate 5kW of electricity (enough energy to power an entire home). Fuel cells operate without combustion, so they are virtually pollution free, and this particular model also reduces carbon emissions by nearly 40 percent, as compared to traditional power plant generated electricity. Additionally, heat is a byproduct of the electrochemical reaction, which will also produce up to 27,000 BTU/hour of heat for the building's hot water system.

Lewis and Clark President Dale Chapman said he is excited that the Godfrey campus has been
selected by Ameren as a site for this new technology.

"Lewis and Clark will one of the first sites in the Midwest to access this new technology, and we are honored that Ameren has selected our campus for this collaborative effort," Chapman said.
"The goal of the combination of these alternative energy technologies is to take a majority of the
energy costs for the Trimpe Building entirely off the grid, and it will also be the first time Lewis and Clark will produce its own energy. The AEPC will provide an applied research and teaching
facility for our faculty and students, as well as our partner Ameren and others such as the Electric Power Research Institute (EPRI), and the fuel cell manufacturer."

Ameren will place the fuel cell on site, as well as donate the installation costs for the new technology. In exchange, Ameren will utilize the fuel cell demonstration site for views by its strategic partners. Ameren and EPRI will have access to the data from the fuel cell for further
research and analysis.

"Ameren has an interest in distributed generation technologies and we look forward to testing
fuel cells. The key research aspect of this project is to study fuel cell operation in an integrated
manner within the Alternative Energy Facility to better understand the overall system

efficiency, costs, and environmental performance," said Ameren Vice President of Corporate Planning Steve Kidwell. "Compared to other distributed generation technologies, fuel cells are highly efficient, produce little noise or pollution, and have few moving parts."

"I think it is appropriate for a community college with a namesake like Lewis and Clark to be a pioneer in alternative energy technology," said Richard J. Mark, president and CEO of Ameren Illinois. "If fuel cells become more commercially viable, consumers could generate their own electricity at their homes and businesses – leading to savings on their energy bills. We look forward to helping prove out the technology so that one day fuel cells will be readily available
and affordable for consumers."

President Chapman said the benefits of this collaborative effort are numerous.

"Not only will Lewis and Clark be reducing our grid costs and producing energy, but we will also be working with Ameren and their strategic partners to better understand and research the benefits of fuel cell technology and how this new technology can help the college achieve its sustainability program master plan goals," he said.

Lewis and Clark Dean of Math, Science and Technology Sue Czerwinski said the overall project is exciting for the college and all of its constituents.

"Lewis and Clark has been a leader in sustainability efforts, and having this innovative new fuel cell technology will continue to place us in the forefront of alternative energy initiatives," she said. "Additionally, our environmental science and pre-engineering students will have exposure to the latest technologies available, and we are thrilled to offer them these unique learning experiences."

Chapman added that the plans for the renovations of Trimpe are being finalized. Work will begin in July 2013. The majority of plans for the renovation will include health and life safety improvements to bring the building up to date, with a possible expansion of additional space for the AEPC.