

FCR 8

Office of the President
June 10, 2014

Members, Board of Trustees:

CENTER FOR APPLIED ENERGY RESEARCH
SLIPSTREAM CAPITAL PROJECT

Recommendation: that the Board of Trustees approve the initiation of the Center for Applied Energy Research Slipstream Capital Project.

Background: The University's Center for Applied Energy Research (CAER) is the recipient of a grant award from the United States Department of Energy National Energy Technology Laboratory (USDOE NETL). CAER has partnered with Louisville Gas & Electric and Kentucky Utilities (LG&E/KU) to test a carbon dioxide (CO₂) capture system. CAER has developed a novel heat integration scheme for the system that is expected to meet the Department of Energy performance and cost targets of 90% CO₂ capture, 95% CO₂ purity, with an increase in the cost of electricity of less than 35%. The CAER CO₂ capture process has been designed and will be erected and operated at LG&E/KU's E.W. Brown Generating Station in Harrodsburg, Kentucky. The flue gas and utilities for this process will be supplied by the generating station.

The project will be led by CAER with collaboration from the Electric Power Research Institute, Mitsubishi Hitachi Power Systems America, Koch Modular Process Systems and the Smith Management Group. Primary funding for this project is the federal grant from the USDOE NETL with co-funding/cost-share for the project provided by the Kentucky Department of Energy Development and Independence and the Carbon Management Research Group. The collaborators provide expertise in the industrial application of modular pilot plant systems, power generation, thermal engineering, process simulation, environmental health and safety and engineering economics.

The scope of this project is \$1,600,000 and will be funded with federal funds. Upon approval by the Board of Trustees, this project will be submitted to the Council on Postsecondary Education and the Capital Projects and Bond Oversight Committee for interim legislative authorization.

Action taken: Approved Disapproved Other _____