

**Proposed Agreement between California Energy Commission
and
The Regents of the University of California**

Title: Pacific Region Clean Energy Application Center
Amount: \$240,000.00
Term: 28 months
Contact: Bryan Neff
Committee Meeting: 6/13/2011

Funding

FY	Program	Area	Initiative	Budget	This Project	Remaining Balance	
10	Electric	ETSI	Technology Integration	\$240,000	\$240,000	\$0	0%

Recommendation

Approve this agreement with Regents of the University of California for \$240,000 to provide for the market utilization of projects in Combined Heat and Power, waste heat to power, and district energy. This work will be done through the Pacific Region Clean Energy Application Center. These funds leverage \$2.1 million from the United States Department of Energy (U.S. DOE) and \$267,000 from other sources for a total of \$2,367,000. Staff recommends placing this item on the discussion agenda of the Energy Commission Business Meeting scheduled on July 13, 2011.

Issue

California needs to undertake a wide range of activities to promote greater use of Combined Heat and Power (CHP), waste heat to power (WHP), and district energy (DE). These activities are key to achieving the PIER goal of bringing to market energy technologies that provide increased environmental benefits, greater system reliability, and lower system costs, while providing tangible benefits to California ratepayers. This will also help California meet the goals of the Global Warming Solutions Act (AB 32) that includes a CHP reduction target equivalent to 4,000 MW of additional CHP. In addition, the Governor's Clean Energy Jobs Plan establishes a goal of 6,500 MW of additional CHP over the next 20 years.

Background

The overall goal of the PIER program is to develop and bring to market energy technologies that provide increased environmental benefits, greater system reliability, and lower system costs while providing tangible benefits to California ratepayers. PIER is directed to meet this goal by undertaking projects in advanced electricity generation technologies that reduce greenhouse gases. A program requirement is to provide for future market utilization of projects funded through PIER. This agreement provides for the market utilization activity.

The U.S. DOE awarded a \$2.1 million grant for FY 2009-2013 to a group of California universities to operate the Pacific Clean Energy Application Center (PCEAC). The PCEAC is expected to undertake a range of activities to promote the greater use of CHP, waste-heat-to-power, and district energy in California, Nevada, and Hawaii.

The PCEAC effort is being led by the Regents of the University of California (UC Berkeley and UC Irvine campuses), with support from San Diego State University (SDSU) and San Francisco State University (SFSU). The PCEAC builds on previous efforts of the Pacific Region Combined Heat and Power Application Center (PRAC) that was operated by UC Berkeley, UC Irvine, and SDSU from 2004 through 2009 as a U.S. DOE "State Special Energy Project" through the California Energy Commission. The current U.S. DOE FY 2009-2013 PCEAC award requires a 20% cost match share from non-federal sources, or about \$500,000 over the four-year period. This cost match has been committed over the four-year award period by the Energy Commission, the UC Berkeley Energy Biosciences Institute, Sempra Utilities, and the Regents of the University of California.

Proposed Work

This proposed work encompasses a broad range of education, outreach, and analysis that will provide for future market utilization. These include the development of project case studies that examine why projects have succeeded, preparation of state assessment reports, direct project assistance for in-depth project screenings for potential CHP candidates, and field assessments of system operations.

UC Berkeley and UC Irvine would lead the outreach and policy related tasks and SDSU and SFSU would lead the site assessment and direct project support activities. Additional project tasks include project management, assistance in coordination of state "road-mapping" and other relevant policy activities with state agencies along with U.S. DOE and the U.S. Environmental Protection Agency, and the ability to address a wider range of clean energy technologies within the scope of PCEAC activities. Activities funded directly with Energy Commission funds will be included in quarterly reports as well as a final report. Documents created for the U.S. DOE will be included as attachments to the final report.

Justification and Goals

This project "[will develop, and help bring to market] advanced electricity generation technologies that exceed applicable standards to increase reductions in greenhouse gas emissions from electricity generation, and that benefit electric utility customers" (Public Resources Code 25620.1.(b)(3)), (Chapter 512, Statutes of 2006)); and this project "provides for the future market utilization of projects funded through the program" (Public Resources Code 25620.1.(c)(9)).

Potential benefits of this research include supporting California's energy efficiency and environmental goals, most notably the reduction of greenhouse gases, the policy goals laid out in AB 32, and Governor Brown's Clean Energy Jobs Plan.

This will be accomplished by:

- Providing education and outreach
- Identification of potential high impact projects
- Performing site audits for CHP and district energy