

**Proposed Amendment between California Energy Commission
and
The Regents of the University of California, - CIEE**

Title: PIER State Partnership for Energy Efficiency Demonstrations
Amount: \$1,000,000.00
Term: No term change
Performing Inst: The Regents of the University of California, - CIEE
Contact: David Weightman
Committee Meeting: 10/12/2010

Funding

FY	Program	Area	Initiative	Budget	This Project	Remaining Balance	
06	Electric	Buildings	Strategic Demonstrations	\$85,628	\$85,628	\$0	0%
09	Electric	Buildings	Strategic Demonstrations	\$914,372	\$914,372	\$0	0%

Recommendation

Approve this agreement with The Regents of the University of California, - California Institute for Energy and the Environment (CIEE) for \$1,000,000. Staff recommends placing this item on the consent calendar of the Commission Business Meeting.

Issue

Many PIER technologies benefit from large scale monitored installations so potential users can better understand cost-effectiveness and real-world performance. Without these demonstrations, there is a tendency for new technology to disappear forever into what is called the 'Valley of Death'. The State Partnership for Energy Efficiency Demonstrations (SPEED) Program was developed to carry out demonstrations in public facilities in order to help new technologies emerge from this Death Valley. Recently an opportunity has arisen for PIER to carry out demonstrations with the Department of the Navy.

Executive Order 13514 (Order) requires Federal agencies to set greenhouse gas emissions reduction targets, to increase energy efficiency, and to leverage Federal purchasing power to promote environmentally-responsible products and technologies. The Federal government aims to reach 28 percent reduction in GHG emissions by 2020. The Navy and Marine Corps have a large number of facilities located in California. To meet the intent of the Order, the Navy and Marine Corps will need to implement the best energy efficiency technologies and management practices. PIER has developed a portfolio of best practice lighting, HVAC, and data center technologies that can help the Navy and Marine Corps achieve their energy efficiency and GHG emission reduction goals. Large scale demonstrations in military facilities will also help PIER-developed technologies emerge from the Valley of Death in a sustainable way.

Background

The PIER Program has conducted substantial Research and Development (R&D) for end-use energy systems. These efforts have produced technologies and practices ready for demonstration in actual end-use applications. They have also produced pre-commercial and commercial products which are in need of larger scale installations to better understand cost-effectiveness and real-world performance. The demonstration program has high demand for its services and provides value for the PIER program. It is also important for PIER technology to be widely demonstrated throughout California. The first phase of the PIER Technology Demonstration Program has successfully demonstrated individual technologies and practices in target market sectors, sometimes leading to scaled-up deployment of the technologies in partnership with utility programs. The second phase will significantly expand the deployment of PIER technologies to a broader range of facilities to achieve greater national awareness and reach full commercialization potential.

Proposed Work

The PIER Demonstration Program will work with the U.S. Navy and Marine Corps staff to identify high priority facilities in California for technology upgrades. Assessments will be made of opportunities to deploy appropriate PIER technologies which represent best practices in lighting, data centers, HVAC, and control systems. At appropriate venues, pre-installation assessments will be conducted, materials purchased, and upon completion of engineering analysis, installed. Subsequently, the energy use and performance of the installations will be monitored and case study reports prepared. The selection of PIER technologies will be subject to the economic payback requirements of Navy and Marine Corps for energy equipment. It is likely that the Navy and Marines will want to deploy PIER technologies successfully demonstrated in California at other military bases around the world. Outcomes of these demonstrations will include expanding web-based design resources that showcase how PIER technologies help to meet deep efficiency goals. Additionally, work will include creating and disseminating PIER technology information for use by curriculum development working groups, identifying venues for new demonstrations, and ongoing updating of the PIER technology portfolio.

Justification and Goals

This project "[will develop, and help bring to market] increased energy efficiency in buildings, appliances, lighting, and other applications beyond applicable standards, and that benefit electric utility customers" (Public Resources Code 25620.1.(b)(2)), (Chapter 512, Statutes of 2006)).

This project also addresses the Warren Alquist's Act directive that the commission shall develop, implement, and administer the Public Interest Research, Development, and Demonstration Program that shall include a full range of research, development, and demonstration activities that, as determined by the commission, are not adequately provided for by competitive and regulated markets. (b) The general goal of the program is to develop, and help bring to market, energy technologies that provide increased environmental benefits, greater system reliability, and lower system costs, and that provide tangible benefits to electric utility customers through investments: that increased energy efficiency in buildings, appliances, lighting, and other applications beyond applicable standards, and that benefit electric utility customers.

This will be accomplished by:

- Expanding the deployment of PIER developed or financially supported technologies that reduce energy consumption by end users.