

**Proposed Amendment between California Energy Commission  
and  
DOE- Lawrence Berkeley National Laboratory**

**Title:** Demand Response as a System Reliability Resource for the CAISO  
**Amount:** \$0.00  
**Term:** 12 months  
**Contact:** Mike Gravely  
**Committee Meeting:** 7/28/2011

**Recommendation**

Approve this amendment for a no-cost time extension with Lawrence Berkeley National Laboratory to extend this agreement for \$1,899,925 by 12 months. This will extend the end date of the contract to September 30, 2012 to allow the contractor to complete the review of critical technical reports provided by the Commission Contract Manager and finish an analysis of implementation activities impacting demand response as a system reliability resource for the California Independent System Operator (CAISO).

**Issue**

The contractor requires time to complete work in Task 2.3 to complete the review of technical reports provided by the Commission Contract Manager and finish an analysis of implementation activities impacting demand response as a system reliability resource for the CAISO.

**Background**

This contract has successfully addressed CAISO interests on using demand response (DR) as a reliability resource. CAISO staff is now convinced that DR can be a resource to increase reliability and mitigate price volatility. When the Consortium for Electric Reliability Technology Solutions (CERTS) began this PIER project in 2005, research was required to demonstrate to the CAISO, California utilities, and others that DR could provide unique capabilities to the California grid. Results from this research were successful in demonstrating these capabilities, and the California Public Utilities Commission directed California investor-owned utilities to perform pilot demonstrations of these concepts in their 2009-2011 Demand Response programs. Demonstrations at both Southern California Edison (SCE) and Pacific Gas and Electric (PG&E) showed how automated demand response can control existing utility load management assets and can be used to provide important electrical system reliability services including ancillary services on a large scale. Over 6,100 customers participated in these demonstrations.

This research also demonstrated how SCE and PG&E can provide real-time dispatch of load curtailment response to CAISO and developed functional specifications that SCE, PG&E, and other utilities can use to procure a production-grade system. Customer surveys and market research were conducted that provided an understanding of customer acceptance for the types of curtailments provided by demand response.

With the deployment of over 11 million Advanced Metering Infrastructure (AMI) systems by the California utilities, this research has provided critical field demonstration results that show how using existing demand response resources can meet the future needs of the California Grid instead of having to permit and operate new power plants for spinning reserve ancillary services.

## **Proposed Work**

This no-cost extension will allow the contractor to finalize Task 2.3 by finishing the review of technical reports provided by the Commission Contract Manager and the analysis of implementation activities impacting demand response as a system reliability resource for the CAISO.

## **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 will be accomplished by:

Demonstrating that demand response can be used as both an energy efficiency capability as well as a grid ancillary service.